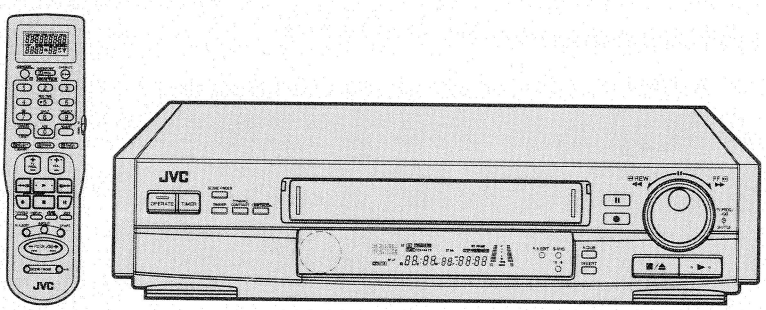
JVC

VIDEO CASSETTE RECORDER

HR-S7000EG/EH



SHOWVIEW

Hi-Fi

S VHS

625

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-S7000EG)*

GENERAL

Power requirement	:	AC 220 – 240 V~, 50/60 Hz
Power consumption	:	24 W
Temperature		
Operating	:	5°C to 40°C
Storage	:	–20°C to 60°C
Dimensions (WxHxD)	:	426 x 94 x 341 mm
Weight	:	4.5 kg
Format	:	S-VHS/VHS PAL standard with Hi-Fi audio
Maximum recording time (SP)	:	240 min. with E-240 video cassette
(LP)	:	480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	:	PAL-type colour signal and CCIR monochrome signal, 625 lines/50 fields
Recording/Playback system	:	DA-4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	:	45 dB
Horizontal resolution	:	250 lines (VHS) 400 lines (S-VHS)
Frequency range	:	70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output	:	21-pin scart connectors (IN/OUT x 1, IN/DECODER x 1) RCA connectors (VIDEO IN x 1, AUDIO IN x 2, AUDIO OUT x 1) S connectors (IN x 1, OUT x 1)

TUNER/TIMER

TV channel storage capacity	:	80 positions (+AUX position "AU")
Channel coverage	:	VHF 47 – 89/104 – 300/ 302 – 470 MHz UHF 470 – 862 MHz
Aerial output	:	UHF channel 36 (Adjustable 32 – 40)
Memory backup time	:	Approx. 3 min.

ACCESSORIES

Provided accessories	:	Aerial cable, Infrared remote control unit, "R03" battery x 2, Audio cable, S-Video cable

Design and specifications subject to change without notice. Specifications shown are for SP mode unless otherwise specified.

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No. 82516
October 1995

Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

WARNING: DANGEROUS VOLTAGE INSIDE
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

The OPERATE button does not completely shut off mains power from the unit, but switches operating current on and off.

CAUTION
- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the AC outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the AC outlet prior to connecting or disconnecting any signal lead or aerial.

WARNING
There are two different types of SECAM colour systems: SECAM-L, used in FRANCE (also called SECAM-West), and SECAM-B, used in Eastern European countries (also called SECAM-East).
1. This recorder can also receive SECAM-B colour television signals for recording and playback.
2. Recordings made of SECAM-B television signals produce monochrome pictures if played back on a video recorder of SECAM-L standard, or do not produce normal colour pictures if played back on a PAL video recorder with SECAM-B system incorporated (even if the TV set is SECAM-compatible).
3. SECAM-L prerecorded cassettes or recordings made with a SECAM-L video recorder produce monochrome pictures when played back with this recorder.
4. This recorder cannot be used for the SECAM-L standard. Use a SECAM-L recorder to record SECAM-L signals.

IMPORTANT:
- It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.
- Please read the "Precautions" section of this instruction manual before installing or operating the recorder.

Video tapes recorded with this video recorder in the LP(Long Play) mode cannot be played back on a single-speed video recorder.

S-VHS 625 ShowView

- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".
- ShowView is a trademark applied for by Gemstar Development Corp. ShowView system is manufactured under licence from Gemstar Development Corporation.

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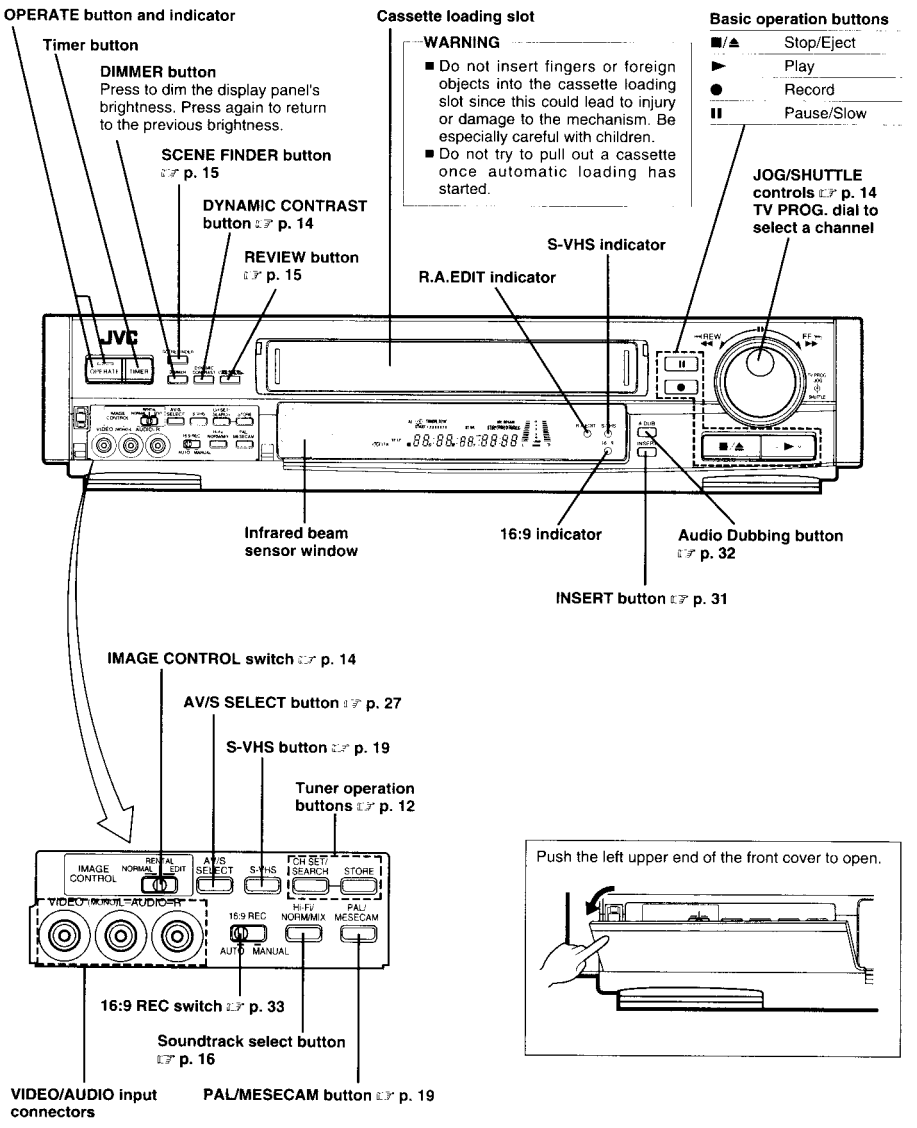
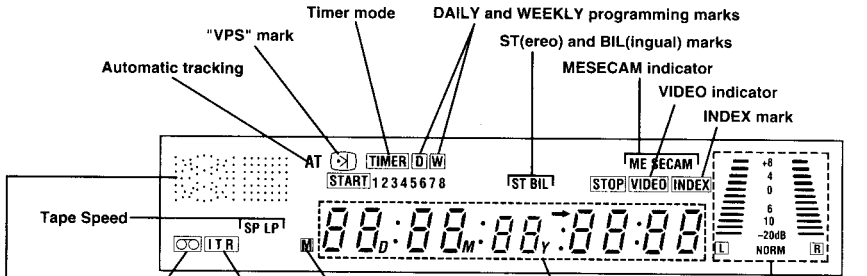
Controls And Indicators

Front Panel


OPERATE button and indicator
Timer button
DIMMER button
Press to dim the display panel's brightness. Press again to return to the previous brightness.
SCENE FINDER button ☞ p. 15
DYNAMIC CONTRAST button ☞ p. 14
REVIEW button ☞ p. 15
Cassette loading slot
WARNING
■ Do not insert fingers or foreign objects into the cassette loading slot since this could lead to injury or damage to the mechanism. Be especially careful with children.
■ Do not try to pull out a cassette once automatic loading has started.
Basic operation buttons
■/⏏ Stop/Eject
► Play
● Record
❚❚ Pause/Slow
JOG/SHUTTLE controls ☞ p. 14
TV PROG. dial to select a channel
S-VHS indicator
R.A.EDIT indicator
Infrared beam sensor window
16:9 indicator
Audio Dubbing button ☞ p. 32
INSERT button ☞ p. 31
IMAGE CONTROL switch ☞ p. 14
AV/S SELECT button ☞ p. 27
S-VHS button ☞ p. 19
Tuner operation buttons ☞ p. 12
16:9 REC switch ☞ p. 33
Soundtrack select button ☞ p. 16
VIDEO/AUDIO input connectors
PAL/MESECAM button ☞ p. 19

Controls And Indicators (cont'd)

Display Panel



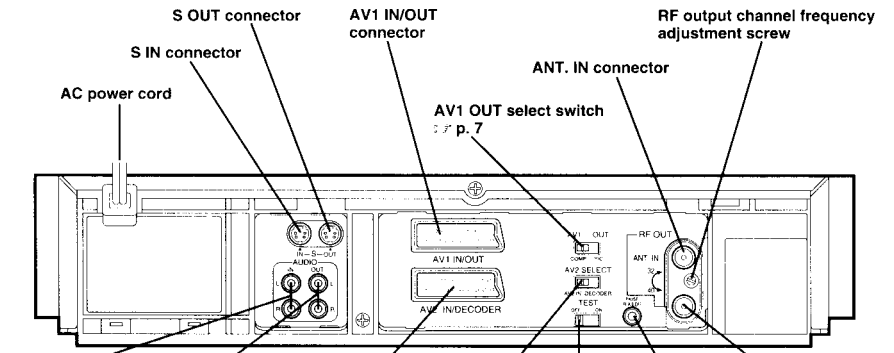
- Channel position
- Date/Clock
- AUX indicator(AU 1, AU 2 or F-AU)
- Child lock indicator
- Timer start/stop time
- Instant timer recording time
- Real channel
- Realtime tape counter
- INDEX code number

Symbolic mode indicators

PLAY:	▷	REVERSE PLAY:	◁	RECORD:	○	INSERT:	⊙
FF:	▷▷	REW VARIABLE SHUTTLE SEARCH:	◁◁ *	RECORD PAUSE:	○ ‖	INSERT PAUSE:	⊙ ‖
REW:	◁◁	STILL: FORWARD SLOW:	▷ ‖	AUDIO DUBBING:	○	AUDIO DUBBING INSERT:	⊙
FF VARIABLE SHUTTLE SEARCH:	▷ ▷▷ *	STILL: REVERSE SLOW:	◁ ‖	AUDIO DUBBING PAUSE:	○ ‖	AUDIO DUBBING INSERT PAUSE:	⊙ ‖

* The indicator will blink during turbo search.

Rear Panel

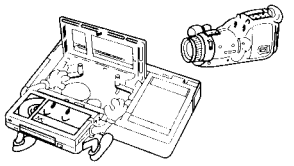


***When AV2 SELECT switch is set to AV2 IN:**
AV2 IN/DECODER connector works as auxiliary input connector.
When AV2 SELECT switch is set to DECODER:
AV2 IN/DECODER connector works as input connector for a decoder.

Usable Cassettes

Full-Size VHS
E-30 (SE-30**)
E-60 (SE-60**)
E-90
E-120
E-180 (SE-180**)
E-240

Compact VHS*
EC-30 (SE-C30**)
EC-45 (SE-C45**)

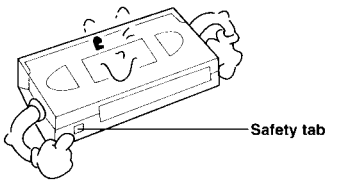


* Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.

** This video recorder can record on regular VHS and Super VHS cassettes. However, it will record and play back regular VHS signals only. It is not possible to play back a recorded Super VHS tape.

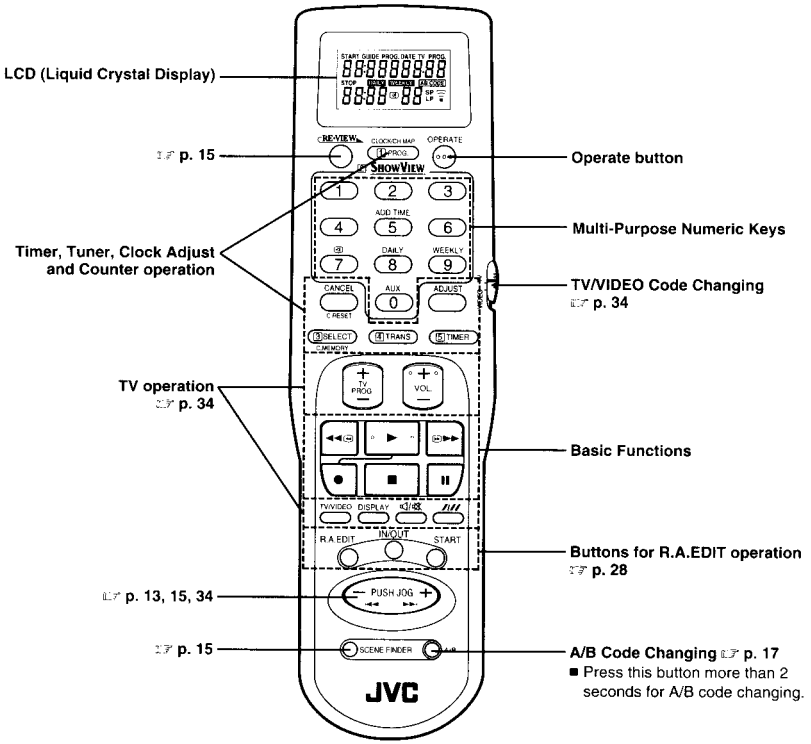
Accidental Erasure Prevention

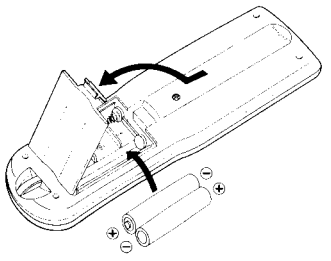
To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



Controls And Indicators (cont'd)

Wireless Remote Control


LCD (Liquid Crystal Display)
☞ p. 15
Operate button
Multi-Purpose Numeric Keys
Timer, Tuner, Clock Adjust and Counter operation
TV/VIDEO Code Changing ☞ p. 34
TV operation ☞ p. 34
Basic Functions
Buttons for R.A.EDIT operation ☞ p. 28
☞ p. 13, 15, 34
☞ p. 15
A/B Code Changing ☞ p. 17
■ Press this button more than 2 seconds for A/B code changing.
JVC



Installing Batteries

1. Open the battery compartment cover.
2. Insert 2 "R03"-size batteries (provided) in the correct directions.
3. Replace the cover.

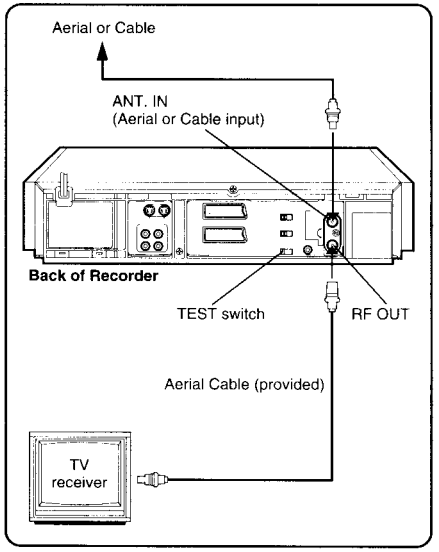
How To Use

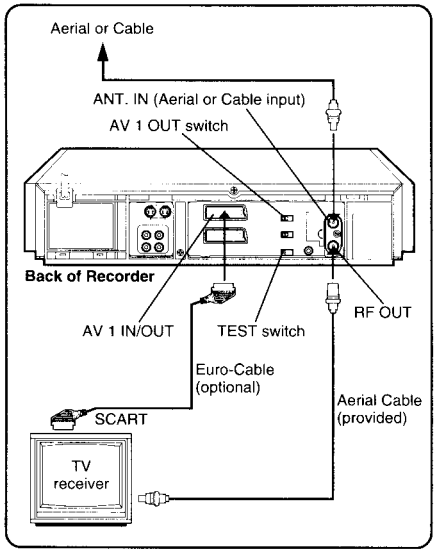
The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets of JVC and other brands. ☞ p. 34.

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

Connections

It's essential that your video recorder be properly connected. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.





A RECORDER-TO-TV CONNECTION

RF CONNECTION

For TV sets without AV input terminals:

1. Connect the TV aerial cable to the recorder.
2. Connect the recorder to the TV's aerial terminal.

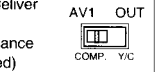
AV CONNECTION

For TV sets with AV input terminals:

1. Connect the aerial, recorder and TV as per "RF CONNECTION".
2. Connect the recorder to the TV's 21-pin SCART connector.

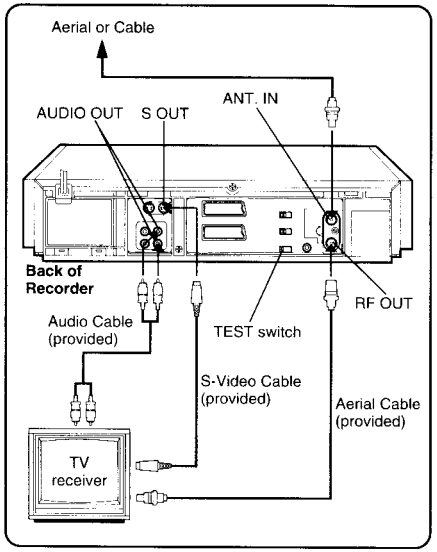
AV1 OUTPUT SIGNAL SELECTION

The AV1 IN/OUT connector accepts only a composite signal (regular video signal), but can deliver either a composite video signal or a Y/C signal (a signal in which the luminance and chrominance signals are separated) according to the setting of the rear panel AV1 OUT switch.



- If your TV's SCART connector is compatible only with the regular video signal, set this switch to COMP.
- If your TV's SCART connector is compatible with the Y/C signal, set this switch to Y/C. You will better enjoy high-quality S-VHS pictures.
- If your TV's SCART connector is RGB-compatible, connect the KM-V7EG RGB Signal Converter (optional) between the AV1 IN/OUT connector and the TV's SCART connector, and set this switch to Y/C. The Y/C signal will be converted into an RGB signal for reproduction of high-quality S-VHS pictures.

Connections (cont'd)



RECORDER-TO-TV CONNECTION (cont'd)

S-VIDEO CONNECTION

For TV sets with an S-VIDEO input terminal:

1. Connect the aerial, recorder and TV as per "RF CONNECTION".
2. Connect the recorder's S OUT terminal to the TV's S-VIDEO IN terminal.
3. Connect the recorder's AUDIO OUT terminals to the TV's AUDIO IN terminals.

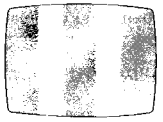
NOTES:

- To make the most of Super VHS picture performance, we recommend you use the S-VIDEO connection.
- To operate the recorder with your TV using the S-VIDEO connection, set your TV to the VIDEO (or AV mode).
- If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction.

B TUNE THE TV TO YOUR VIDEO RECORDER

The video recorder sends picture and sound signals via the RF connecting cable to your TV on UHF channel 36.

TEST SIGNAL



1. Turn on the recorder.
2. Set the TEST switch to ON.
3. Press TV/VIDEO to engage the VIDEO mode.
4. Set your TV to the video channel. Tune the TV to bring the two vertical white bars on the screen most clearly. (UHF/CH 36)
   - Your TV should be set to the channel designated for use with a video recorder or to a spare channel if there is not a specified video channel on your TV.
5. Reset the TEST switch to OFF.

NOTES:

- If CH36 is occupied by a local station, adjust the RF output channel adjustment screw to use another channel between CH32 and CH40 instead.
- If some interference noise is continually seen on the screen, consult your JVC dealer.

IMPORTANT:

With RF Connection

- It is always necessary to set your TV's channel to UHF channel 36 (or adjusted channel) to operate the recorder with your TV.

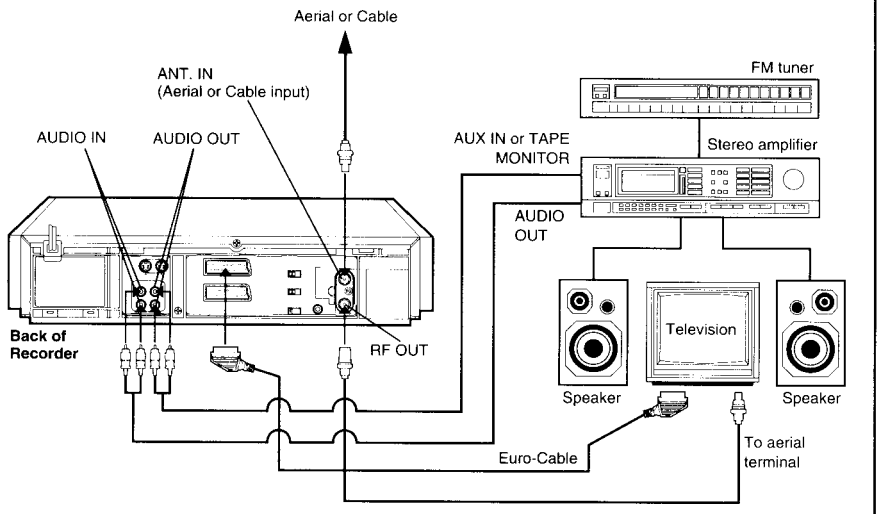
With AV Connection

- Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.
- For switching the TV's mode, refer to the instruction manual of your television.
- The TV/VIDEO button switches the recorder's mode between TV and VIDEO. When the power is turned on, the recorder's TV mode is selected. To use the recorder's function, select the VIDEO mode.
- When the TV/VIDEO button is used to change the recorder's mode to VIDEO, the connected TV's mode also switches to VIDEO automatically.

With S-VIDEO Connection

- Set your TV to the VIDEO (or AV) mode. The S-VIDEO connection has priority over AV connection.

CONNECTING TO HI-FI STEREO SYSTEM



If you have a Hi-Fi stereo system, you can connect your video recorder to it so that the sound can be heard through your Hi-Fi system. Please make these additional connections:

HI-FI AUDIO CONNECTION

1. Connect the AUDIO IN L and R connectors of the recorder to the recording output terminals of the amplifier.
2. Connect the AUDIO OUT L and R connectors of the recorder to the AUX IN or TAPE MONITOR terminals of the amplifier.

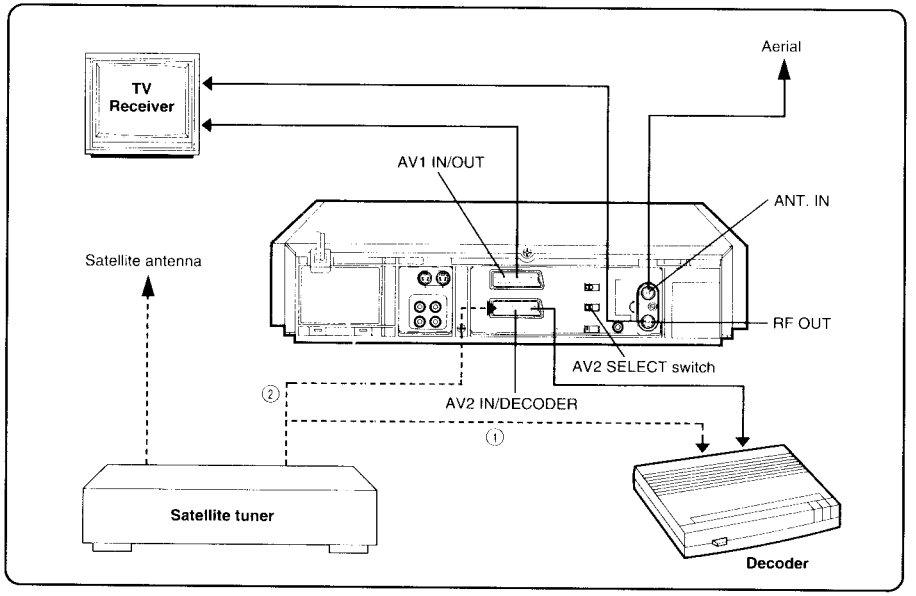
NOTES:

- Make sure L and R are correct when connecting the audio input and output connectors of the recorder to a stereo amplifier.
- If stereo or bilingual TV broadcasts are receivable in your area, this recorder can record them independently of the TV set and play them back through the connected audio system.
- When listening to sound from the connected stereo system, turn down the sound volume of the TV completely.

CAUTION:

- This recorder has a dynamic range of more than 90 dB with regards to its hi-fi audio capability. It is recommended that you check the maximum level if you are going to listen to the hi-fi audio signals through a stereo amplifier. A sudden surge in speaker input may cause speaker damage.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set, otherwise the video playback picture may be adversely affected.

Information On Scrambled Broadcasts



SET UP

The AV2 IN/DECODER connector can be used as an input terminal for an external decoder (descrambler). Simply connect a decoder and you can enjoy the variety of programming that is available through scrambled channels.

1. Connect your recorder and TV via their AV connectors (☞ p. 7, AV CONNECTION).
2. Set the AV2 SELECT switch on the recorder's rear panel to "DECODER".
3. Connect your recorder's AV2 IN/DECODER connector to the decoder's Euroconnector using a 21-pin SCART cable.
4. Set the tuner to receive scrambled channels (☞ p. 12, Setting The Tuner).

NOTES:

When connecting a satellite tuner...

- Connect the satellite tuner to the decoder ①, or if you don't have a decoder connect the satellite tuner directly to the video recorder ②.
- Set the AV2 SELECT switch on the rear panel to "AV2 IN".
- To view a programme via the satellite tuner, select AU 2 mode by pressing the numeric key "0" and then AV/S SELECT until "AU 2" appears on the display panel.

WATCHING SCRAMBLED CHANNELS

Preparation

- Turn on the TV.
- Select VIDEO channel (or AV mode).

1. Press TV/VIDEO to select the VIDEO mode.
2. Choose a scrambled channel using the Numeric keys or TV PROG. just as you would with regular stations.

Watching One Programme While Recording Another

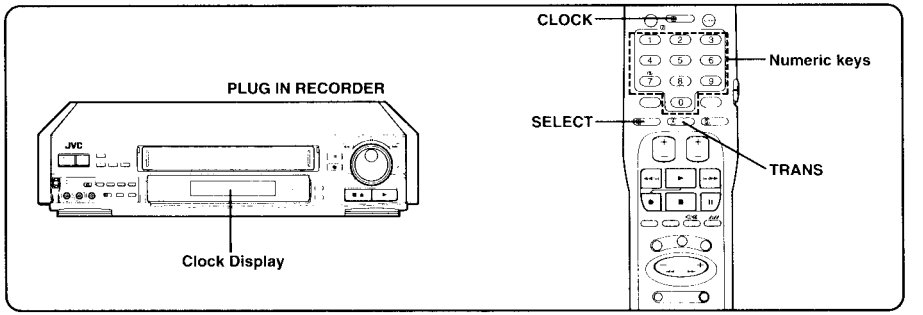
To watch a regular TV programme while recording a scrambled programme:

- Press the TV PROGRAM button on the TV's remote control and select the channel you want to watch.
- To watch the scrambled programme that is being recorded, press TV/VIDEO and select the VIDEO mode.

To watch a scrambled TV programme while recording a regular programme:

- Press the TV PROGRAM button on the TV's remote control and select the scrambled channel. After displaying a scrambled picture for a few seconds, the programme will become descrambled and a viewable picture will appear on the TV screen.

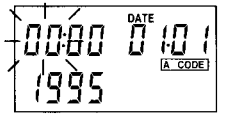
Setting The Clock



1. Load batteries (☞ p. 6).

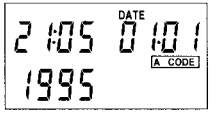
Remote Control's LCD

2. Press CLOCK.



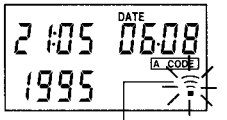
3. Press the appropriate numeric keys to input the time.

- Example: For 21:05, press 2 1 0 5.



4. Press the appropriate numeric keys to input the day, month and year.

- Example: For 6th August, 1995, press 0 6 0 8 1 9 9 5.



Transfer-ready mark

5. Press TRANS with the remote control directed to the recorder's remote sensor window.

- The remote control's clock will start. At the same time, the set data will be transferred to the recorder.

Recorder's Display Panel

TO MAKE CORRECTIONS

Press SELECT button so that the item you want to change blinks. Re-input that item. Continue to step 5.

AFTER A POWER CUT

Since your video recorder has a 3-minute backup memory, it will not be affected by short power cuts. If mains power is unavailable for over 3 minutes, however, the recorder's display will reset to 0:00. In such a case, simply transfer the remote control's time to the recorder.

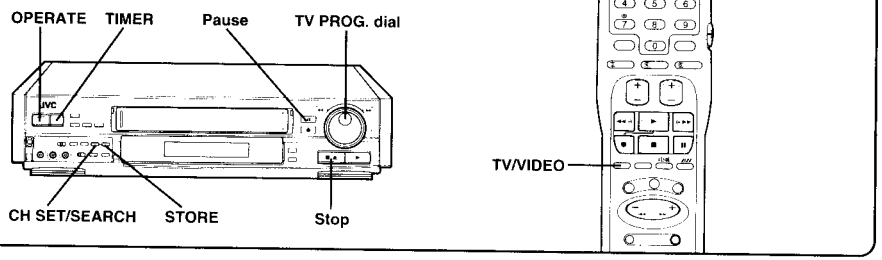
1. Press CLOCK three times.
2. Press TRANS with the remote control directed to the recorder's remote sensor window.

NOTES:

- If the day and month data is invalid (such as 31st April), the month digits are cleared automatically and the day digits will blink. Input again.
- If the year digits are automatically cleared in step 4, it is possible that you have input 29th February for a non-leap year. Input again.
- When the batteries are exhausted, the time display will change to "0:00" and start blinking. Replace all the batteries and set the clock again.

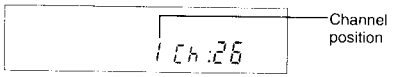
Setting The Tuner

■ Turn on the TV: Select VIDEO channel (or AV mode).
■ When the decoder is connected, switch on the decoder.



The procedure introduced here lets you assign receivable channels in your area to channel positions on your video recorder's tuner. Once stored, these can be accessed with the TV PROG. buttons.

1. **Press OPERATE to turn on the recorder.**
2. **Press TV/VIDEO to engage the VIDEO mode.**
3. **Press CH SET/SEARCH until the display panel shows the following.**

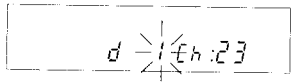


Ch = Regular CC = Cable

4. **Press CH SET/SEARCH again briefly to start automatic scanning for receivable channels.**

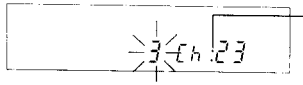
- Automatic scanning stops when a station is detected, and the channel position will blink.
- Holding down CH SET/SEARCH will start reverse search.
- If you don't want to store the station detected, simply press CH SET/SEARCH to continue automatic scanning.

5. **Press TV/VIDEO on the remote control when a scrambled broadcast is detected.**



- The programme will be descrambled. For normal (non-scrambled) broadcasts, do not press TV/VIDEO.

6. **Turn the TV PROG. dial to select the channel position where you wish to store that TV station.**

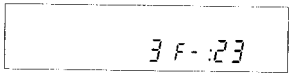


7. **Press STORE to store the station.**
   - The colon will disappear when the station is stored.
8. **Repeat steps 4 through 7 for other receivable channels.**
   - If the picture of the detected station is not satisfactory, try fine-tuning. See below.
9. **Press Stop on the recorder to disengage the Channel Set mode.**

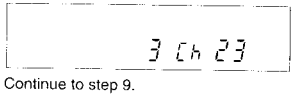
TO GET A CLEARER PICTURE — Fine-Tuning—

After step 8, you can perform Auto Fine-Tuning for all the stored stations at once.

1. Press Pause for more than 2 seconds.
   - Auto Fine-Tuning will start.



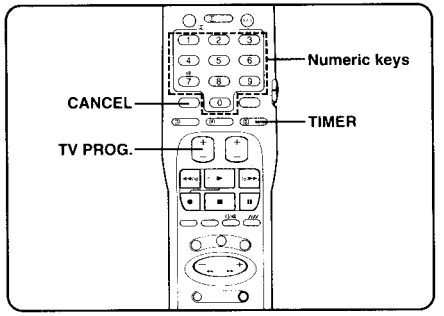
   - After completion of Auto Fine-Tuning for all the stored stations, the display panel will return to step 7.



2. Continue to step 9.

If you want to fine-tune a specified station, try fine-tuning manually.

1. Turn the TV PROG. dial to select the station you wish to fine-tune.
2. Press Pause briefly.
3. Turn the TV PROG. dial so that the picture becomes clearer.
4. Press Pause briefly again.
5. Continue to step 9.

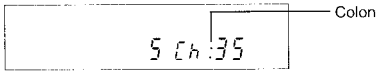


TO DELETE STORED CHANNELS

Please follow the procedure described below when you wish to delete a poorly received channel.

1. Press TV PROG. to select the channel position you want to skip.
2. Press CH SET/SEARCH for more than 2 seconds.

3. Press CANCEL.



- The colon will appear when the station is deleted. Channel position 5 can no longer be chosen by TV PROG. buttons.

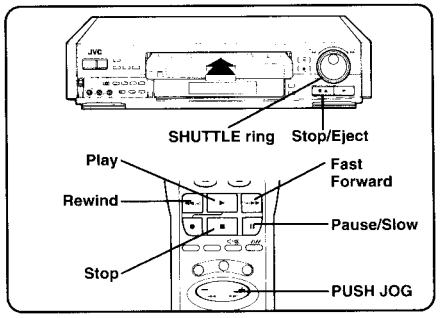
4. Press Stop on the recorder to disengage the Channel Set mode.

TO STORE NEW CHANNELS

Please follow the procedure described below when you wish to add a new channel.

1. Press CH SET/SEARCH for more than 2 seconds.
2. Press TIMER.
   - Real channel starts blinking.
3. Press TIMER to change the band between Ch and CC, if necessary.
4. Press numeric keys to input the number of the real channel you want to store.
5. Press numeric keys to input the number of a vacant channel position.
6. Press STORE to store the channel.
7. Press Stop on the recorder to disengage the Channel Set mode.

Playback



Basic Operations

Preparation

- Turn on the TV.
- Select VIDEO channel (or AV mode).

1. **Load a cassette.**
   - The recorder power will come on automatically.
   - The counter will be reset to "0:00:00" automatically.
   - If the safety tab on the cassette is removed, playback will start automatically.
   - Select the appropriate colour system by pressing the PAL/MESECAM button.(☞ p. 19)
2. **Press Play to start playback.**
3. **Press Stop to stop playback.**
   - To rewind the tape, press Rewind or turn the SHUTTLE to the left and release it.
   - To fast-forward the tape, press Fast Forward or turn the SHUTTLE to the right and release it.
   - To stop rewind or fast-forward, press Stop.
4. **Press Stop/Eject on the recorder to eject the tape.**

Variable-Speed/High-Speed (Turbo) Search, Still Playback/Frame Advance/Slow Motion

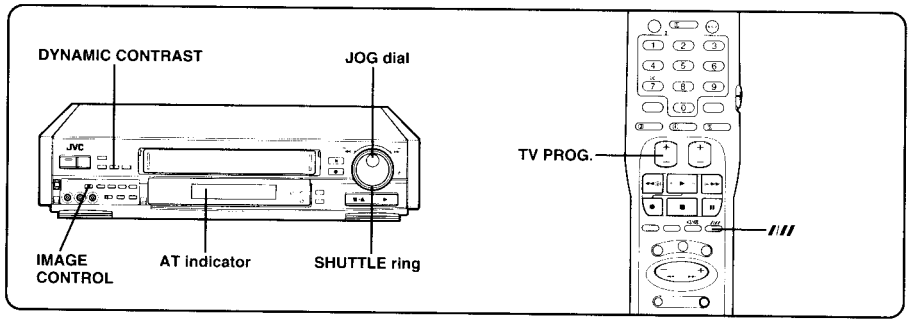
During Playback:

- Press PUSH JOG ⏮ or ⏭ for variable-speed search.
- The more times the button is pressed, the faster the playback picture will move.
- To decrease speed, press the button for the opposite direction.
- Press Fast Forward for high-speed forward search, or Rewind for high-speed reverse search.
- For short searches, keep Fast Forward or Rewind pressed for more than 2 seconds. When released, normal playback will continue.
- Press Pause/Slow to view a still picture.
- Press again to advance the picture frame by frame.
- Press Pause/Slow for 2 seconds for slow motion.

During Still:

- For frame-by-frame playback in the forward or reverse direction, press PUSH JOG ⏮ or ⏭ in the corresponding direction.

Playback (cont'd)



Other Functions

JOG/SHUTTLE Control

You can view pictures in slow to fast motion, or frame-by-frame.

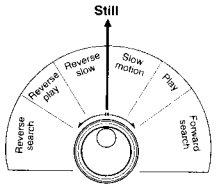
During Playback or Still:

1. Turn the outer ring (SHUTTLE) in either direction. The farther the ring is rotated, the faster the search speed. Releasing the ring stops the picture in the Still mode.
   - For fast-forward with a visible picture, turn the SHUTTLE all the way to the right and release it within 1 second.
   - For rewind with a visible picture, turn the SHUTTLE all the way to the left and release it within 1 second.

During Playback or Still:

1. Turn the inner dial (JOG) clockwise or counterclockwise for jog control. The tape moves frame-by-frame at the speed with which the dial is turned, in the direction the dial is rotated.

To resume normal playback, press Play button.



Manual Tracking

Your video recorder is equipped with automatic tracking control. If you wish to adjust tracking manually, you can override this function.

During Playback:

1. Press the /// button.
   - The AT indicator will go out.
2. Press TV PROG. + or – to adjust tracking.
   - Press the /// button to return to automatic tracking.

During Slow:

1. Simply press TV PROG. + or – to adjust tracking.

Dynamic Contrast

Use this function to improve image contrast which tends to degrade especially with wide-screen pictures.

During Playback:

1. Press DYNAMIC CONTRAST on the recorder.
   - The button will light in green.
   - Pressing the button again turns off the light.
   - Turn on/off the light according to the type of playback picture you want.
   - The setting will remain effective even though you turn on/off the recorder.

Image Control

You can choose the type of playback picture that's best for the given application.

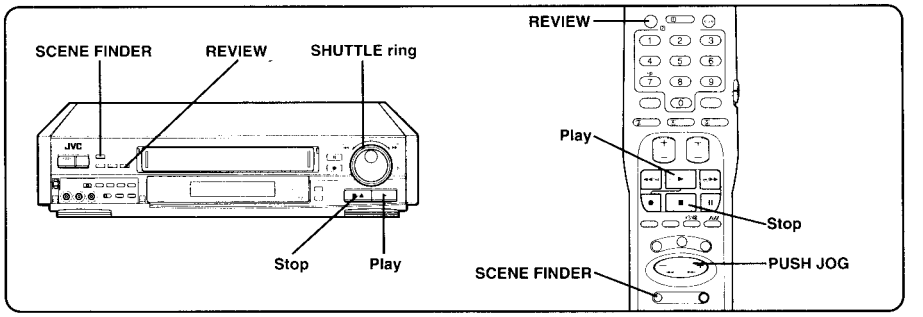
NORMAL: Normally set the IMAGE CONTROL switch to this position.

RENTAL: Makes the picture clearer when viewing tapes with noise due to repeated playback, such as rental videos.

EDIT: For improved dubbing and editing results.

NOTES:

- The recorder automatically stops when still continues for more than 5 minutes.
- If the still picture is unstable, use the TV PROG. buttons to correct the picture.
- During search playback, some noise bars will appear.
- There is no audio during search, slow, still, or frame-by-frame playback.
- When a new tape is inserted, the recorder enters the automatic tracking mode automatically.
- When playing back LP recordings in the search, still or frame-by-frame playback mode, the picture will be distorted and there will be a loss of colour.
- When the DYNAMIC CONTRAST button is lit, Dynamic Contrast has priority over Image Control regardless of the setting of the IMAGE CONTROL switch.

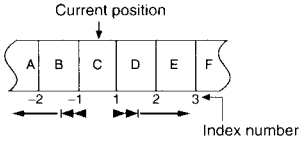


Index Search

Your recorder automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.

During Stop:

1. Press PUSH JOG I◄◄ or ►►I. "INDEX –1" or "INDEX 1" will be displayed on the display panel and search will begin in the corresponding direction.
2. If you wish to access index codes 2 through 9, press PUSH JOG repeatedly until the correct index number is displayed.
   Ex.: To locate the beginning of B from the current position, press PUSH JOG I◄◄ twice.
   To locate the beginning of D from the current position, press PUSH JOG ►►I once.



- When the specified index code is found, playback will start automatically

ReView Function

Simply by pressing a single button, the recorder power comes on, rewinds, and begins playback of the last recording. This makes it easier to "review" the programme you have timer-recorded.

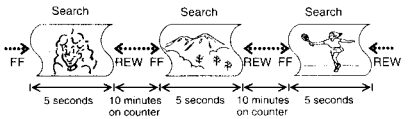
When the recorder power is off:

Press REVIEW.

- After the recorder power comes on, the tape will be rewound to the beginning of the last recording (where the index code is placed) and playback will start automatically.
- To play back a recording located 2 index codes away, press REVIEW twice. You can access any one of up to 9 index codes.
- ReView is not possible while the recorder is in the Timer mode.
- The recorder's REVIEW button lights when timer-recording is finished, and blinks while the tape is being rewond.

Scene Finder

This function helps you check contents of unlabeled recorded tapes at the touch of a single button.



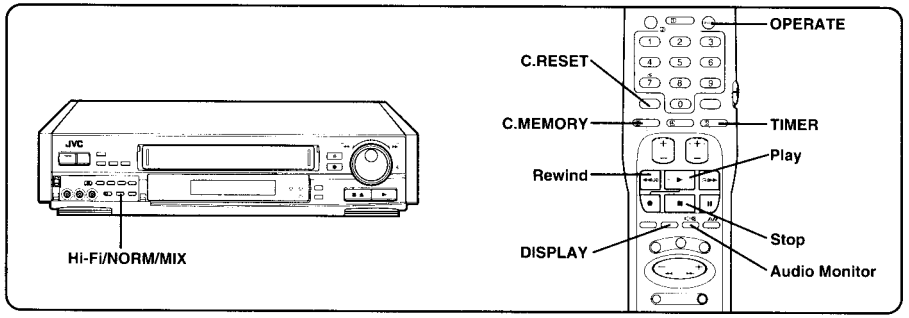
Anytime except during Record:

1. Press SCENE FINDER.
   - The recorder starts high-speed forward search for 5 seconds and then fast-forwards 10 minutes on counter. This will be repeated until the end of the tape is reached.
   - To start Scene Finder in the reverse direction, press SCENE FINDER and then turn the SHUTTLE ring to the left within 2 seconds. It will be repeated until the beginning of the tape.
   - During Scene Finder, the display panel shows the following.

In the forward direction In the reverse direction

   - During Scene Finder High-Speed Search, you can also hear the tape sound. During Fast Forward (or Rewind), you will hear the current TV sound instead.
   - Scene Finder does not function during Index Search and Random Assemble Editing.
2. Press Stop to stop Scene Finder.

Playback (cont'd)



Other Functions (cont'd)

Counter Memory

During Playback:

1. Press DISPLAY until a counter reading appears on the display panel.
2. Press C.RESET at a point you wish to locate later.
   - The counter will read "0:00:00".
3. Press C.MEMORY.
   - The M indicator will light on the display panel.
4. When you wish to return to that point, press Stop and then Rewind.
   - The tape will rewind and stop at about "0:00:00" automatically.
5. To cancel the Counter Memory mode, press C.MEMORY again.

Next Function Memory

Your recorder can memorise what to do after rewind.

During Stop:

For automatic start of playback after the tape is rewound:

1. Press Rewind.
2. Press Play within 2 seconds.

For automatic power off after the tape is rewound:

1. Press Rewind.
2. Press OPERATE within 2 seconds.

For automatic timer standby after the tape is rewound:

1. Press Rewind.
2. Press TIMER within 2 seconds.

Repeat Playback

During Playback:

1. Press Play for more than 5 seconds, and release.
   - The Play indicator (▷) on the display panel will blink slowly.
   - The tape will be played all the way to the end 20 times automatically, and then stop.
2. To stop playback at any time, press Stop.

Soundtrack Selection

During Playback:

Your video recorder is capable of recording three soundtracks (HIFI L, HIFI R and NORM) simultaneously, and playing back the selected soundtrack.

- Pressing Audio Monitor on the remote control changes the track:

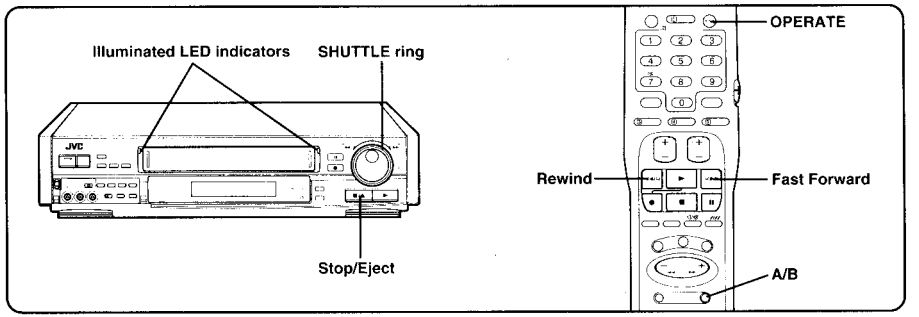
Track: (on display panel)	Use:
L + R	for Hi-Fi stereo tapes.
L	for main audio of bilingual tapes.
R	for sub audio of bilingual tapes.

- Pressing Hi-Fi/NORM/MIX on the recorder changes the mode:

Mode:	Track: (on display panel)	Use:
HIFI	L and/or R	for Hi-Fi stereo tapes.
NORM	NORM	for audio-dubbed tapes.
MIX	NORM + L and/or R	for audio-dubbed tapes.

NOTE:

- Normally use the L + R position. Then Hi-Fi stereo tapes are played back in stereo, and tapes with normal audio only are played back automatically in the NORM mode.



Illuminated Operation Confirmation

The two LED indicators, located on both sides of the cassette loading slot, confirm the recorder has received commands you send from the remote control. The operation modes and the corresponding indications are listed below.

Mode	Colour of LED indicators		How they're displayed
	Left	Right	
When loading a cassette. When power is turned on (with a cassette already loaded).	G	G	Lit for 2 seconds
When playback starts.	G	G	Blink 3
When recording starts.	R	R	Blink 3
While in the Record-Pause mode.	R	R	Lit
When FF (or Index Search FF) starts.	—	G	Blink for 5 seconds
When REW (or Index Search REW or Instant ReView) starts.	G	—	Blink for 5 seconds
When timer-programmed data is transferred from the remote control to the recorder.	O	O	Lit for 3 seconds
When timer-programmed data is not successfully transferred from the remote control to the recorder.	O	O	Blink for 5 seconds

G:Green R:Red O:Orange

To stop the indications:

If you don't need the LED indications, you can turn it OFF by following the instructions below.

1. If there is a cassette inserted in the recorder, press the Stop/Eject button to eject the cassette, and then turn off the power.
2. Hold the Stop/Eject button for more than 3 seconds.
   - Both of the LED indicators in Green will blink twice, and the function will be turned OFF.
   - If you want to turn it ON again, eject the cassette from the recorder and turn off the power, and then hold down the Stop/Eject button for more than 3 seconds. Both of the LED indicators will light up for a second and the function will be turned ON again.

Open Search Function

Your video recorder lets you view the picture being rewound or fast-forwarded so you can easily check how far the tape has gone.

During Rewind:

1. Keep the remote's Rewind button pressed, or turn the SHUTTLE ring fully to the left.
   - The rewinding tape's picture will be visible.
2. Release the Rewind button or SHUTTLE ring to resume normal rewinding.

During Fast Forward:

1. Keep the remote's Fast Forward button pressed, or turn the SHUTTLE ring fully to the right.
   - The fast forwarding tape's picture will be visible.
2. Release the Fast Forward button or SHUTTLE ring to resume normal fast forwarding.

Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to your remote control's A code control signals and another set to respond to B code control signals.

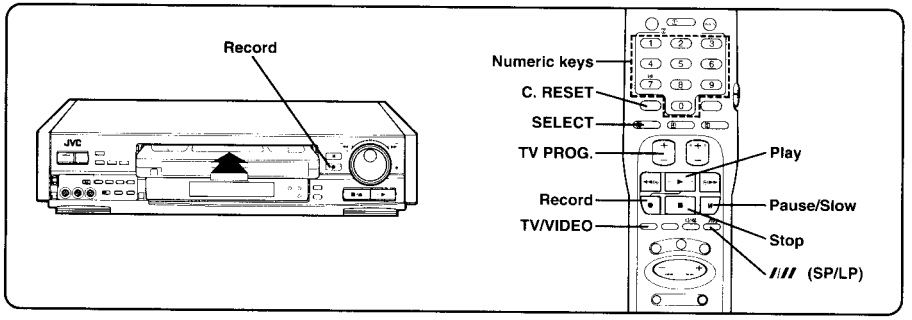
The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

1. Unplug the recorder's power cord from the AC outlet.
2. Press the A/B button for more than 2 seconds to switch to B code.
3. Plug the power cord back into the AC outlet. Do not use other remote controls at this stage.
4. Turn the recorder power on by using the remote control's OPERATE button. The recorder will now only respond to B code signals.

NOTE:

Some TV sets may malfunction in response to the B mode. If this happens switch back to the A mode.

Recording



Basic Operations

Preparation

- Turn on the TV.
- Select VIDEO channel (or AV mode).

1. **Load a cassette.**
   - The recorder power will come on automatically.
   - Select the appropriate colour system by pressing the PAL/MESECAM button.(☞ p. 19)
2. **Press TV/VIDEO to engage the VIDEO mode.**
3. **Press TV PROG. or the numeric keys to select the channel you wish to record.**
   - You can also use the recorder's TV PROG. dial to select the channel.
4. **Press SP/LP to select the tape speed.**
5. **Press Record and Play simultaneously.**
6. **Press Pause/Slow to pause recording.**
7. **Press Play to resume recording.**
8. **Press Stop to stop recording.**

NOTES:

- To start recording with the recorder's Record button, press it once on its own.
- After pause, when recording is resumed, a few frames recorded before the pause may be overlapped by the new recording. This is meant to reduce picture distortion and is not a malfunction.
- The recorder automatically stops when record-pause continues for more than 5 minutes.
- If the Record button does not work, check to see if the cassette's safety tab has been removed.
- The channel cannot be changed while recording is in progress. To change the channel, engage the record-pause mode, then change the channel.
- The recorder automatically rewinds when the end of the tape is reached during recording.
- When a VPS programme is being broadcast on the selected channel, "VPS" mark appears on the display panel. ☞ p. 25 for information on VPS.

Other Functions

To Watch Another Programme While Recording

During Record:

1. If your recorder is connected to the TV via AV connection, press TV/VIDEO.
   - The recorder's VIDEO indicator and the TV broadcast being recorded will disappear.
2. Use the channel controls on the TV to select the other channel you wish to view.
   - The programme selected with the TV channel controls will appear on the TV screen while the one selected with the video recorder's channel controls will be recorded on the tape.
   - If a decoder is connected to the recorder (☞ p. 10), you can select a scrambled channel as well with the TV channel controls.

Instant Timer Recording (Off Timer)

You can start a recording and then set the recorder to shut off automatically after a set duration.

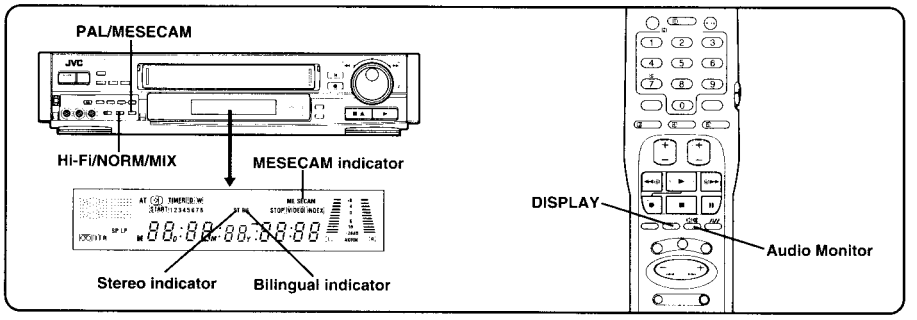
During Record:

1. Press recorder's Record. "ITR" and "0:30" indications appear, advising that power will switch off after 30 minutes.
2. Press Record again to delay the off-time by 30-minute increments (up to 4 hours).
   - For more precise setting, use the remote control's SELECT and TV PROG. buttons to set the exact time required (possible up to 8 hours and 59 minutes).

Elapsed Recording Time Indication

When you need to know the exact time of a recording.

1. Press DISPLAY until a counter reading appears on the display panel.
2. Press C.RESET before starting recording or playback.
   - The counter will be reset to "0:00:00" and show the exact elapsed time as the tape runs.



Stereo And Bilingual

Your recorder is equipped with a Sound-Multiplex decoder for reception of stereo and bilingual broadcasts.

- When a stereo programme is being received, the ST indicator lights on the display panel.
- When a bilingual programme is being received, the BIL indicator lights on the display panel.

To Record Stereo Programmes

Stereo programmes are automatically recorded in stereo on the Hi-Fi audio track (with the normal audio track recording mixed L and R channel sound). No special operation is required. Simply follow the basic recording procedure.

- To listen to the stereo soundtrack while recording, select "L+R" with Audio Monitor. ☞ p. 17.

NOTE:

- If the quality of stereo sound being received is poor, the ST indicator will go off, and the broadcast will be received in monaural with better quality.

To Record Bilingual Programmes

Bilingual programmes are automatically recorded in bilingual on the Hi-Fi audio track. The main soundtrack will be recorded on the normal audio track.

- To listen to the Hi-Fi soundtrack during recording, select "L" for Main, and "R" for Sub.
- To listen to the normal soundtrack, select "NORM" with the Hi-Fi/NORM/MIX button on the recorder.

Display Button

When you wish to check the time, date, or counter reading

1. Press DISPLAY to display the current clock time.
2. Press DISPLAY again to display the current date.
3. Press DISPLAY again to display the counter reading.

Colour System Selection

You can also record SECAM signals, or play back a MESECAM tape on this recorder.

- Hold down PAL/MESECAM for more than 2 seconds so that the MESECAM indicator appears on the display panel.
- When recording PAL signals or playing back a PAL tape, hold down PAL/MESECAM for more than 2 seconds again until the MESECAM indicator disappears.
- MESECAM is the designation for tapes with SECAM signals that have been recorded on MESECAM-capable PAL recorder.

S-VHS And VHS

Your video recorder can record in either S-VHS or VHS.

- To record in S-VHS, insert a cassette marked "S-VHS". The S-VHS indicator will light and the S-VHS recording mode is automatically selected.
- To record in VHS, insert a cassette marked "VHS". The VHS recording mode is automatically selected.
- You can also record in VHS on S-VHS cassettes. For this purpose, after inserting an S-VHS cassette, press the S-VHS button. The S-VHS indicator will go out.

Cassette	Type of recording	S-VHS indicator
S-VHS	S-VHS	On
	VHS	Off
VHS	VHS	Off

Preparation for ShowView Timer Programming

What is ShowView?
For timer-recording to take place, information such as the channel, date, start time and stop time of the programme you wish to record, must be programmed into the recorder's timer memory. The ShowView system condenses all this information into a simple ShowView code number.
Since the ShowView number contains information on the channel number, if you live in an area that uses channel numbers that are different from those listed in your TV directory, these "differences" must be input into the remote control. This process is called "Channel Mapping" (CH MAP).

CHECK THE GUIDE PROG. NUMBERS

Preparation
- Make sure you have set the clock. (☞ p. 11)
- Make sure you have set the tuner. (☞ p. 12)
- Get a TV schedule listing (magazine, newspaper, etc.) which carries ShowView code numbers.

A Find out the channel position numbers your recorder tunes to when you use the TV PROG. –/+ buttons (the positions you stored on page 12) and write them into the list.

Example: 1, 2, 3, 4, 6, 8, 10, 12

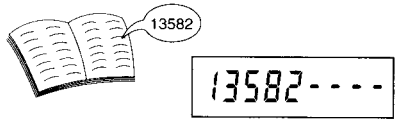
B Look through the TV listing and find out the broadcast station name of each of the channels.

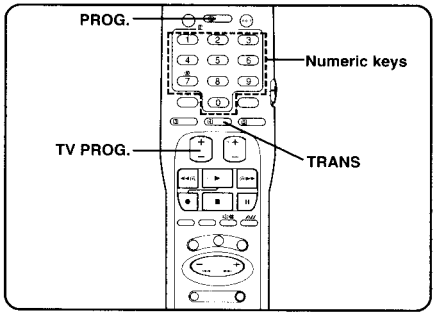
C Use the ShowView numbers to find out the GUIDE PROG. numbers for each of the stations.

How to check:

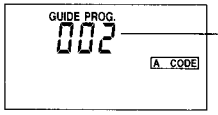
1. **Press PROG.**

2. Press the appropriate numeric keys to enter the ShowView number for a programme as it appears in your TV listing.
- Make sure the ShowView number is for a programme which has not been broadcast yet.





3. Press TRANS.



- The number is the GUIDE PROG. number for that station. Write it into the list.

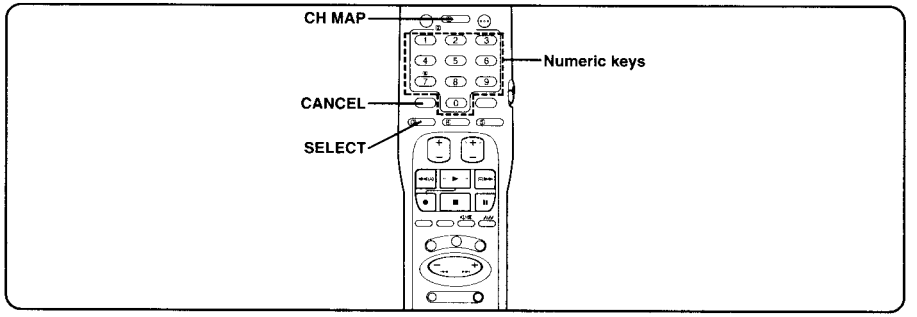
ATTENTION
- When you press the TRANS button in step 3, "Err(or)" may appear on the LCD. This may mean that you have entered a ShowView number for a programme which has already been broadcast.
- For GUIDE PROG. numbers, refer to the GUIDE PROG. number list enclosed with this instruction manual too or consult your JVC dealer.

4. Press PROG.
- Repeat steps 1– 4 and check the GUIDE PROG. number for each of the channels your recorder receives.

A Channel on your recorder (TV PROG. number)	B Station name	C GUIDE PROG. number
(ex.) 1	ARD	1
2	ZDF	2
3	WDR	17

5. Press PROG. until the display shows the clock time.

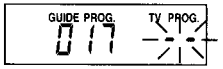
D If the channel number that your recorder receives A and the GUIDE PROG. number C for that station do not match, it is necessary to change the remote control's Channel Map. (continued on next page)



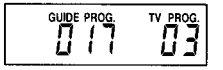
INPUT GUIDE PROG. NUMBERS INTO REMOTE

1. **Press CH MAP until the Channel Map display (below) appears in the remote control's LCD.**

2. Press the appropriate numeric keys to enter the GUIDE PROG. number (C column in your list).
Ex.: For "1", press
0, 0, 1.
For "10", press
0, 1, 0.



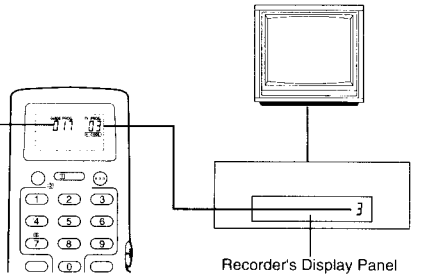
3. Press the appropriate numeric keys to enter the channel number your recorder receives that station on. (TV PROG. number, A column in your list.)
Ex.: For "3", press
0, 3.



4. Press SELECT.
- To input other channels into the Channel Map, repeat steps 2 – 4 above.

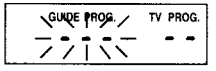
5. Press CH MAP and display the clock time.

Ex.: From column C in the list: The GUIDE PROG. number for WDR is "17".
From column A in the list: The TV PROG. number for WDR is "3".

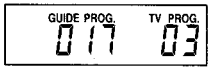


TO CHECK/CANCEL GUIDE PROG. NUMBERS IN THE REMOTE

1. Press CH MAP until the Channel Map display (below) appears in the remote control's LCD.



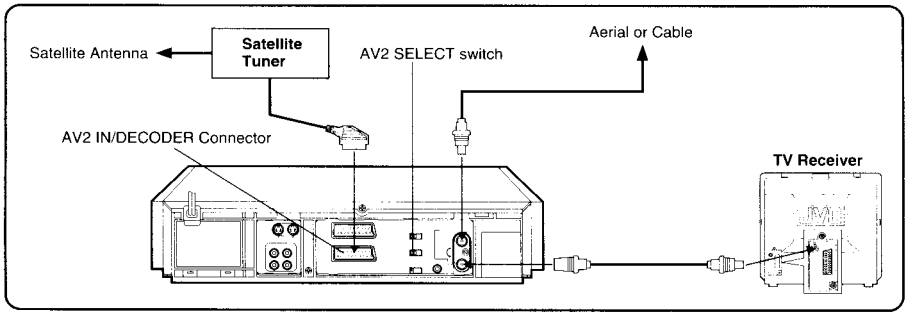
2. Press SELECT until the GUIDE PROG. number you wish to check or cancel is displayed.



To Cancel:
3. Press CANCEL.
4. Press CH MAP and display the clock time.

NOTES:
- When you move to another area, be sure to make changes in the Channel Map as necessary.
- When the remote control's batteries are replaced, the time or Guide Channel numbers you have set may be erased. If this happens, reset them again.

Preparation for ShowView Timer Programming (cont'd)

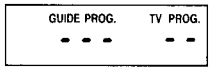


TO RECORD SATELLITE PROGRAMMES

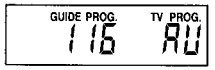
Timer programming is also possible for programmes received via satellite tuner.

Preparation

1. **Connect the satellite tuner as illustrated to the AV2 IN/DECODER connector.**
   - Make sure the AV2 SELECT switch is set to "AV2 IN".
2. **Press CH MAP until the Channel Map display (below) appears in the remote control's LCD.**



3. **Press the appropriate numeric keys to enter the GUIDE PROG. and TV PROG. numbers as follows:**
   - For GUIDE PROG., enter the GUIDE PROG. numbers of the satellite stations that are receivable through your satellite tuner.
   - For TV PROG., always enter "00". When "00" is entered, "AU" will appear in the LCD.



4. **Press SELECT.**
   - To input other satellite stations into the Channel Map, repeat steps 3 – 4 above.
5. **Press CH MAP and display the clock time.**

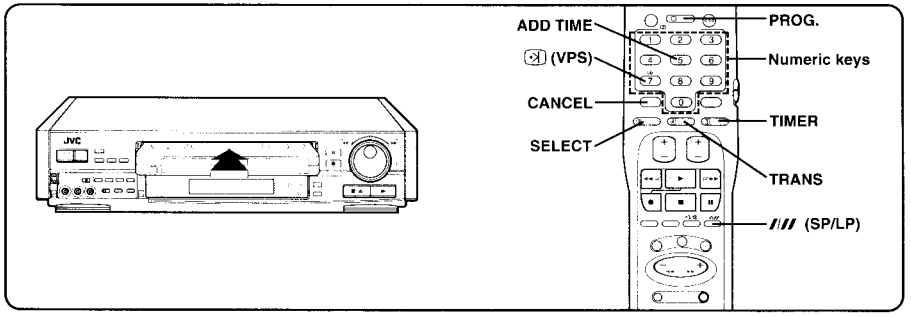
Operation

1. Turn on the satellite tuner and select the channel you wish to record.
2. Enter the ShowView number in the same way as shown in steps 1 – 7 of ShowView Timer Programming on p. 23.

NOTE:

- After selecting the programme you wish to record from your satellite tuner, set the system's timer. If your satellite tuner does not have a timer, leave it switched on.

Timer-Recording — ShowView Timer Programming —



The built-in ShowView programming system greatly simplifies timer programming because you won't have to enter all the data that is usually necessary (such as date, start and stop time, and channel).

TIMER PROGRAMMING IS NOT POSSIBLE UNLESS THE CLOCK HAS BEEN SET.

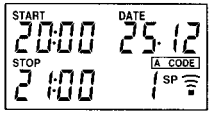
Preparation

- Make sure you have set the GUIDE PROG. numbers (☞ p. 20 – 22).
- Insert a cassette with the safety tab in place. The recorder power will come on automatically.
- Select the appropriate colour system by pressing the PAL/MESECAM button.(☞ p. 19)

1. **Press PROG.**

2. **Press the appropriate numeric keys to enter the ShowView number for the TV programme you wish to record.**
   - For ShowView numbers, refer to your newspaper or TV directory.

3. **Press SELECT.**
   - The LCD will show the data for the ShowView number you just entered.
   - If the entered ShowView number is not proper, "Err" appears on the LCD. Check the ShowView number again and re-enter it.
   - If you wish to take advantage of VPS recording (☞ p. 25), "⊙" should be displayed on the LCD; if not, press ⊙ (the numeric key "7") to make it appear.



WEEKLY program: After step 3, press numeric key "9".
DAILY (Mon. – Fri.) program: After step 3, press numeric key "8".

4. **Press SP/LP to select the tape speed.**
5. **Press TRANS with the remote control directed toward the recorder's Remote Sensor window.**
6. **Press PROG.**
   - The LCD returns to the clock display and the entered data will be automatically cleared.
   - If you need to set another program, repeat steps 1 – 6.
7. **Press TIMER.**
   - The recorder will enter the Timer mode and power will go off.

TO DELAY THE STOP TIME

After you press SELECT in step 3, press the ADD TIME button. Each time the ADD TIME button is pressed, the Stop time is delayed by 5 minutes (5 minutes of recording time is added). You can easily compensate for anticipated programme schedule delays this way.

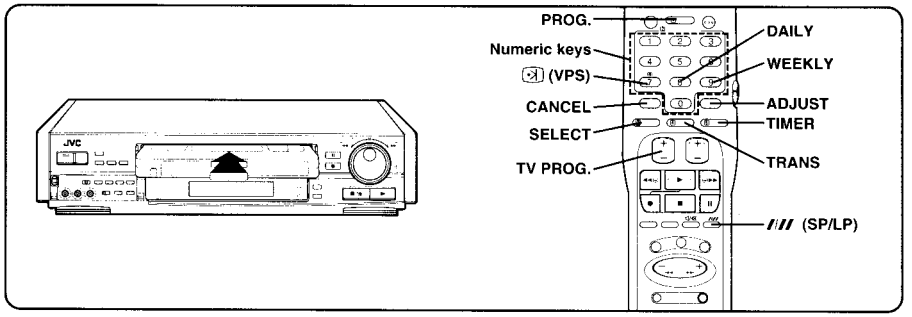
TO MAKE CORRECTIONS

- In step 2, press CANCEL to backspace and re-enter the correct ShowView number.
- After checking the data in step 3, press PROG. twice and re-enter the correct ShowView number.
- After checking the data in step 3, if you want to delay the stop time, etc. press SELECT to make the item you want to change blink, and input new data.
- Pressing PROG. clears the programmed data.

To check, cancel and replace programs, ☞ p. 24.

To use the recorder after setting to the Timer mode, ☞ p. 24.

Timer-Recording (cont'd) — LCD Timer Programming —



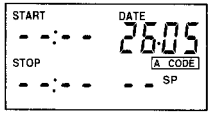
The LCD timer programming lets you input all necessary settings manually. It's helpful if the ShowView number for the TV programme you want isn't readily available.

Preparation

- Insert a cassette with the safety tab in place. The recorder power will come on automatically.
- Select the appropriate colour system by pressing the PAL/MESECAM button.(☞ p. 19)

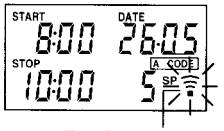
1. **Press PROG. twice.**
2. **Press numeric keys to input the date.**

   Ex.: For 26th May, press 2 6 0 5.



3. **Press numeric keys to input the start time, stop time and channel.**

   Ex.: For 8:00, press 0 8 0 0.



Transfer-ready mark

WEEKLY program: After you input the channel and the transfer-ready mark has appeared on the LCD, press numeric key "9".

DAILY (Mon. – Fri.) program: After you input the channel and the transfer-ready mark has appeared on the LCD, press numeric key "8".

- If you wish to take advantage of VPS recording (☞ p. 25), "⊡" should be displayed on the LCD; if not, press ⊡ (the numeric key "7") to make it appear.

4. **Press SP/LP to select the tape speed.**
5. **Press TRANS with the remote control directed to the recorder's Remote Sensor window.**
6. **Press PROG.**
   - The LCD returns to the clock display and the entered data will be automatically cleared.
7. **Press TIMER.**
   - The recorder will enter the Timer mode and power will go off.

TO MAKE CORRECTIONS

- During steps 2 and 3, press CANCEL to backspace and input new data.
- After setting the channel in step 3, press SELECT to make the item you want to change blink, and input new data.
- Pressing PROG. clears the programmed data.

TO CHECK, CANCEL AND REPLACE PROGRAMS

To check preset programs:

1. Press ADJUST until the program settings are displayed on the display panel.
   - Program 1 is displayed with the number blinking.
2. Press SELECT to review the program contents in succession.
3. To check another program, press ADJUST again.

To cancel the program:

4. Press CANCEL.
   - You can press CANCEL at any stage while the program is open.

To replace a program:

5. Use the SELECT and TV PROG. buttons to input new data.

TO USE THE RECORDER AFTER SETTING TO THE TIMER MODE

For safety, your recorder disables all other functions while in the Timer mode.

- Press TIMER to disengage the Timer mode.
- To re-engage the Timer mode, press TIMER.

NOTE:

- If you are using a satellite tuner and wish to timer-record satellite programmes, make sure to select the "AU 2" mode with the recorder's AV/S SELECT button (☞ p.27) before step 1 and input "0" for the channel number in step 3.

Error Indications

The following error indications may appear on the recorder when you press the TIMER button to engage the Timer Standby mode. Here's why, and what you should do.

- "TIMER" and "⊡" on the display panel continue blinking.
  WHY: There is no cassette in the recorder.
  WHAT TO DO: Insert a cassette.

- The cassette is automatically ejected. "TIMER" and "⊡" continue blinking.
  WHY: The inserted cassette has its safety tab removed.
  WHAT TO DO: Insert a cassette with its safety tab intact. Or cover the safety tab hole of the cassette with adhesive tape and re-insert it. ☞ p. 5.

- "TIMER" blinks for 10 seconds and the Timer Standby mode is cancelled.
  WHY: There are no preset programs in memory, or they have all been incorrectly preset.
  WHAT TO DO: Check the programmed data and re-program it as necessary. Press TIMER again.

Other Indications

- "TIMER" steady lit (with clock display).
  WHY: The recorder is in the Timer Standby mode. This is the normal display you should see when you press the TIMER button.

- " ◯ " and "TIMER" steady lit.
  WHY: Normal display while timer-recording is in progress.

- The cassette was ejected, with power off and "TIMER" and "⊡" are blinking.
  WHY: This means that the end of the tape was reached while timer-recording was in progress. Therefore, the preset program may not be recorded in its entirety.

- "0:00" blinking.
  WHY: This means the clock must be set. It's displayed when time-keeping is terminated due to a power failure or because the recorder's power plug was pulled from the AC outlet.
  WHAT TO DO: Set the clock. ☞ p. 11.
- If power was interrupted, it's also likely that all preset timer programming data has been erased. Please check and re-program as necessary.

- "-- -- -- -- --" is displayed for about 5 seconds when the TRANS button is pressed.
  WHY: Data was not successfully transferred. The program may have been incorrectly preset, or the recorder's clock has not been set, or all the recorder's timer programs (1 – 8) are preset.
  WHAT TO DO: Check the LCD program, and re-program as necessary. Transfer the correct data. Or cancel unnecessary programs, and transfer again.

Other Functions

VPS Recording

Now available from some TV stations, VPS (Video Program System) is a service designed to assure safe, accurate timer-recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over advertised times you preset in the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed.

TO USE VPS SERVICE

- During ShowView or LCD timer programming, make sure that "⊡" is displayed on the LCD before transferring the programme data to the recorder.
- If "⊡" is not displayed on the LCD, press the ⊡ button (the numeric key "7") to make it appear. Pressing the ⊡ button alternates the setting.

NOTES:

- When you enter programmes, set the start time (VPS time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.
- VPS recording is not possible via external input.

Child Lock (Locking The Recorder's Controls)

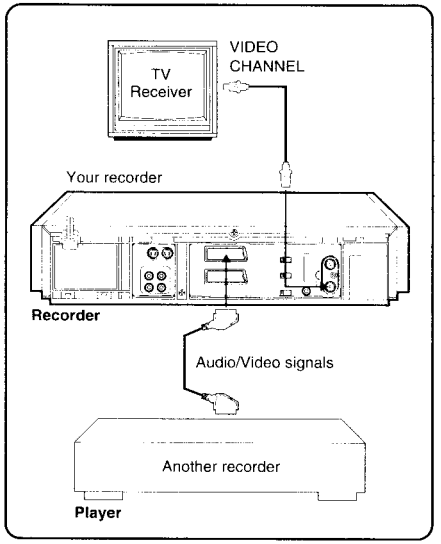
To avoid unwanted operation and prevent accidental recording...

1. Press the remote control's OPERATE button to turn the recorder's power off. Keep this button pressed for about 2 more seconds after the power LED indicator has gone off.
   - The Child Lock indicator (–) will appear on the display panel.
2. Child Lock is cancelled when you switch the recorder's power on with the remote's OPERATE button.
   - Pressing the TIMER button during timer-recording also cancels the Child Lock mode.

NOTES:

- While Child Lock is engaged, make sure you keep your remote control in a safe place inaccessible to children.
- Timer-recording is possible in the Child Lock mode. After timer-recording is done, Child Lock remains in effect.

Editing



Editing From Another Recorder

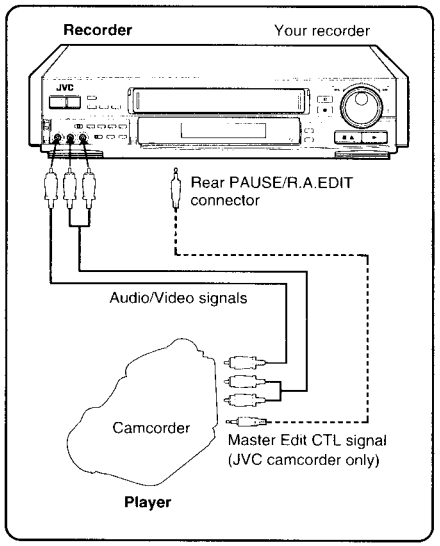
Preparation

- Connect another video recorder to the rear panel 21-pin AV1 or AV2 socket, or S IN and AUDIO IN connectors, or front panel VIDEO and AUDIO connectors.
- Engage the external input mode.
  - To select the input connectors and the corresponding external input mode, ☞ p. 27.
- Set the IMAGE CONTROL switch to EDIT.
- Press your recorder's PAL/MESECAM button to select the appropriate colour system. (☞ p. 19)

1. Load the source tape in the player, and the recording tape in your recorder.
2. Select the recording speed (SP or LP).
3. Put your recorder in the Record-Pause mode.
4. Play back the source tape to search for scene to be edited.
5. Press the recorder's Play button where you want to start editing.
6. Press the recorder's Pause button to stop editing.
7. Repeat steps 4 through 6 to continue editing.

NOTE:

- To minimize picture degradation while editing, set the IMAGE CONTROL switch to EDIT. After you finish editing, be sure to set the IMAGE CONTROL switch back to NORMAL.



Editing From A Camcorder

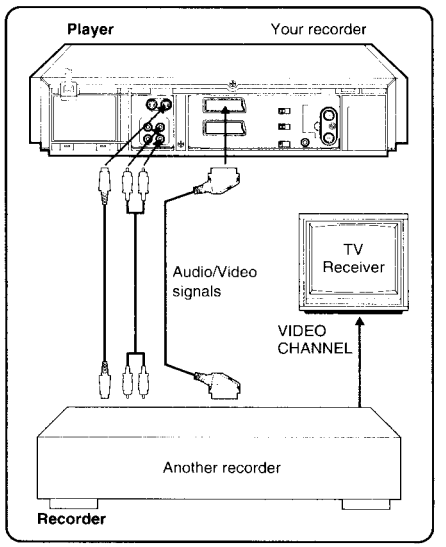
Preparation

- Connect the camcorder's AV OUT connector to the recorder's front panel VIDEO and AUDIO connectors.
- Connect the AV output cable's mini-plug to the PAUSE/R.A.EDIT connector of the recorder.
- Engage the external input mode.(☞ p. 27)
- Set the IMAGE CONTROL switch to EDIT.
- Press your recorder's PAL/MESECAM button to select the appropriate colour system. (☞ p. 19)

1. Follow steps 1 through 7 of "Editing From Another Recorder" on the left.

NOTES:

- If the camcorder is equipped with the Master Edit Control system, you can control the recorder using the camcorder's controls. See the camcorder's instruction manual for operating procedures.
- With this connection, you can also use the camcorder as a video camera for direct recording onto the recorder's tape. Put the recorder in Record-Pause and use the camcorder's start/stop trigger to start and pause recording. (For direct recording with a separate video camera, a camera adapter is necessary.)
- To minimize picture degradation while editing, set the IMAGE CONTROL switch to EDIT. After you finish editing, be sure to set the IMAGE CONTROL switch back to NORMAL.



Editing To Another Recorder

Preparation

- Connect your recorder's 21-pin AV1 IN/OUT socket or S OUT and AUDIO OUT connectors to the audio and video input connectors of the recording deck.
- Load the source tape in the player and the recording tape in the recorder.
- Set the IMAGE CONTROL switch to EDIT.
- Engage the recorder's AUX mode.
- Press your recorder's PAL/MESECAM button to select the appropriate colour system. (☞ p. 19)

1. Put the recorder in the Record-Pause mode.
2. Play back the source tape to search for a scene to be edited.
3. Press the recorder's Play button.
4. Press the recorder's Pause button to stop editing.
5. Repeat steps 2 through 4 to continue editing.

NOTE:

- To minimize picture degradation while editing, set the IMAGE CONTROL switch to EDIT. After you finish editing, be sure to set the IMAGE CONTROL switch back to NORMAL.

Advantages Of S-VHS Video Recorders

You can edit from VHS to S-VHS, S-VHS to VHS, or, needless to say, from S-VHS to S-VHS.

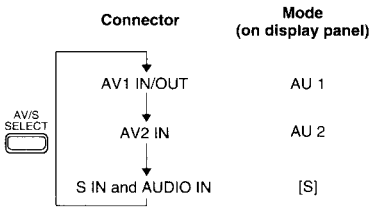
- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: All signals will be transferred without degradation.

How To Select The External Input Mode

To record external audio and video signals;

1. Press the remote control's numeric key "0".
2. Press the AV/S SELECT on the front of the recorder to select the appropriate external input mode.
   - Pressing AV/S SELECT rotates the input mode as follows:

When using rear panel input connectors:



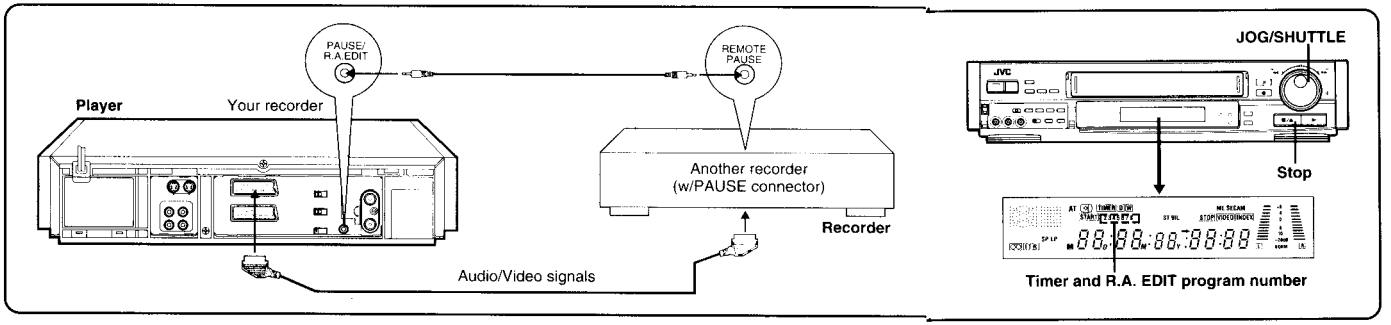
When using front panel input connectors:

Connector	Mode (on display panel)
V (Video), A (Audio) L and R	F-AU

NOTES:

- To record input signals from the AV2 IN/DECODER connector, set the AV2 SELECT switch on the rear of the recorder to AV2 IN.
- Connections made to the front panel Video and Audio inputs automatically override the rear panel AUDIO/VIDEO input connection. If you wish to edit with another machine connected to the rear input connector, make sure that there is nothing connected to the front connectors.
- Use the L connector for monaural connection.

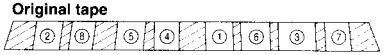
— Random Assemble Editing —



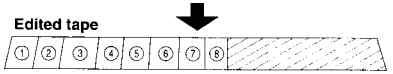
PREPARATION

This function makes it easier to create edited videos when your recorder is used as the source player in combination with another video deck which is equipped with a PAUSE (i.e. REMOTE PAUSE) terminal. You can pre-program up to 8 scenes or "cuts" for automatic editing in the sequence you have specified.

Original tape



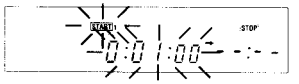
Edited tape



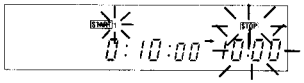
1. Connect your recorder's AV1 IN/OUT connector to the recording deck's AUDIO/VIDEO IN connectors.
2. Connect your recorder's PAUSE/R.A.EDIT connector to the recording deck's PAUSE connector.
   - If the recording deck does not have a PAUSE connector, connect to the R.A.EDIT connector.
3. Turn both units on.
4. Engage the recorder's AUX (iliary) mode.

OPERATION

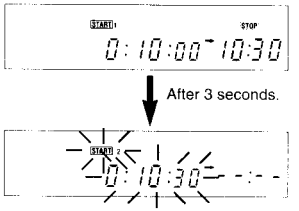
1. Insert a recorded cassette into your recorder, and insert a cassette (with safety tab intact) into the recording deck.
2. Play back the tape in your recorder.
3. Press the R.A.EDIT button.
   - The display panel will change to the R.A.EDIT mode.



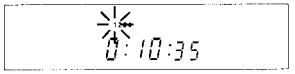
4. Use the JOG/SHUTTLE to search for the point where you want an edited scene to start, and press IN/OUT.
   - The cut-in point is registered in memory.



5. Use the JOG/SHUTTLE to search for the point where you want the scene to end, and press IN/OUT.
   - The cut-out point is registered in memory.



6. Specify additional scenes by repeating steps 4 – 5.
7. Put the recording deck in the Record-Pause mode.
8. Press START.
   - The function begins automatic editing; all the specified scenes are copied to the recording deck in sequential order.



   - While a scene is being searched, the recording deck automatically enters the Record-Pause mode.
   - When Random Assemble Editing is finished, your recorder enters the Still mode, the recording deck enters the Record-Pause mode, and the cursor blinks at the next available scene number.
9. Press R.A.EDIT again.
10. Press Stop on both decks to end Random Assemble Editing.

To check, cancel and replace programs, ☞ p. 30.

Sound Shuttle

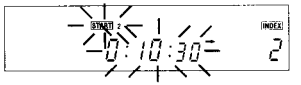
You can also monitor the sound when searching for scenes you want to edit in steps 4 – 5.
Since you can hear the soundtrack during selection, you can avoid abrupt or unnatural sounding scene-to-scene connections.

Using The Remote Control

You can also use the remote control's buttons for R.A.EDIT operation.
Make sure the remote control is set to the code corresponding to the player.

Using Index Search With Random Assemble Editing

In step 4, Index Search can also be used to locate your edit points. When used, "INDEX" and the index number will appear on the display panel. For Index Search ☞ p. 15.



- Using Index Search during R.A.Edit will result in a reduction in accuracy.

Memory Capacity

Random Assemble Editing utilizes the same memory space as the recorder's timer; so the number of sequences available to this function may not be 8, depending on how many programs are already stored in memory.
Example: When three programs are stored in memory (timer program number 1, 3 and 4).

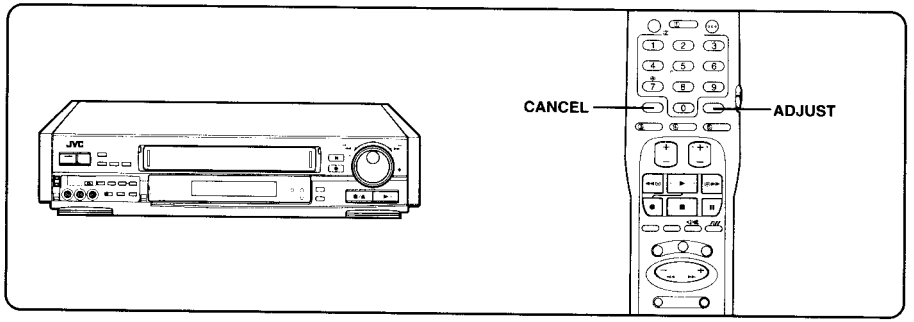
	Program number on display panel							
Timer program	1		3	4				
R.A.EDIT program		2			5	6	7	8

Only 5 programs can be programmed for R.A.EDIT. The program numbers 2, 5, 6, 7, 8 are available and R.A.EDIT will be performed in this order.

- If the display panel shows "-- -- -- -- --" when you press R.A.EDIT, the memory is already full of timer programs. If this happens, cancel some of the timer programs. (☞ p. 25.)

NOTES:

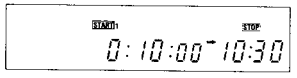
- When editing, there may be a discrepancy of about 2 seconds on the playback tape between the locations you chose as cut-in/out points and the locations the recorder recognizes as those points.
- For any scene, the cut-out point must have a counter reading that is at least 1 second after the cut-in point. A cut-out point with a counter reading less than or the same as the cut-in point will not be registered.
- Since the playback deck prerolls during Random Assemble Editing, there must be at least 15 seconds worth of recorded material prior to any cut-in point on the playback tape.
- If the search time for a cut-in point exceeds 5 minutes, the recording deck's Record-Pause mode will be cancelled and editing will not take place.



TO CHECK PROGRAMS

While in the R.A.EDIT mode:

1. Press ADJUST.
   - The display panel shows the program number and contents in chronological order as the button is pressed.



   - If you press ADJUST again after the last program is displayed, the total running time of the edited program will appear.

   - You can also check the current total running time during programming.

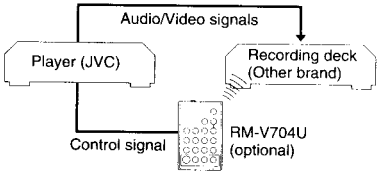
TO CANCEL AND REPLACE PROGRAMS

During steps 4 and 5 (☞ p. 28) or when checking programs:

1. Press CANCEL.
   - The displayed program will be cleared.
   - To cancel another program, press ADJUST until the program you want to cancel appears on the display panel, and then press CANCEL.
   - To replace a program, perform steps 4 and 5.

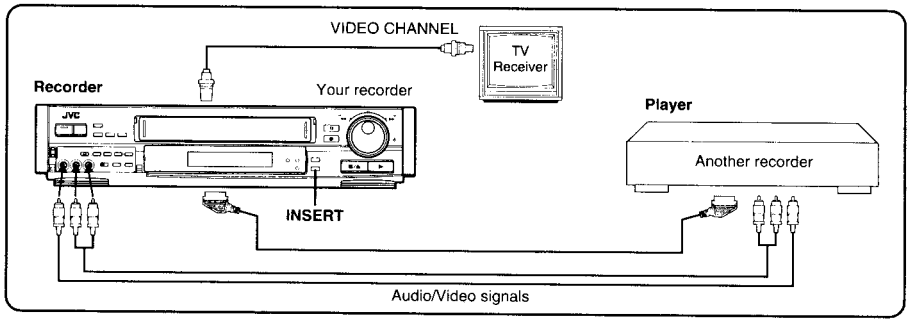
Optional RM-V704U Multi-Brand R.A.Edit Remote Control

By connecting this remote control to your recorder's R.A.EDIT Connector, Random Assemble Editing will become possible in conjunction with a second non-JVC deck. The RM-V704U is compatible with various European VCR brands — convenient especially if you already own a recorder other than JVC. For compatible systems and availability, please consult your JVC dealer.



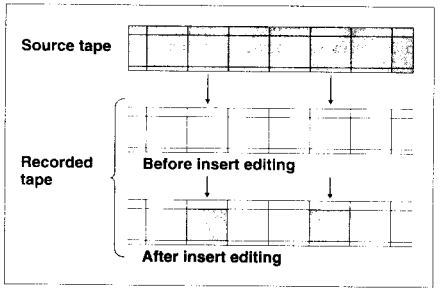
NOTE:

- Although the RM-V704U is designed to operate the recording deck, it may not work with some VCRs, or may have limited function capability.



Insert Editing

Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged. If you wish to change the normal audio track as well, use the audio dubbing function simultaneously.



Preparation

- Connect another video recorder to the rear panel 21-pin AV1 or AV2 socket, or front panel AUDIO and VIDEO connectors.
- Engage the external input mode.
  - To select the input connectors and the corresponding external input mode, ☞ p. 27.

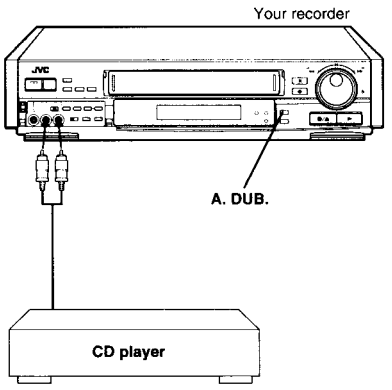
1. Load the source tape in the player, and the recording tape in your recorder.
2. Play back the recording tape and determine the edit-out point (the end of the segment to be replaced) using the JOG/SHUTTLE controls.
   - Releasing the JOG/SHUTTLE controls engages the Still mode.
3. Press C. RESET. (0:00:00)
4. Determine the edit-in point (the beginning of the segment to be replaced) using the JOG/SHUTTLE controls.
5. Press INSERT. (Insert-Pause mode)
   - For simultaneous replacement of the normal audio soundtrack, press A. DUB as well.
   - The TV screen changes from the still picture to the input signal you are going to record.
6. Play back the segment of the source tape to be inserted.
7. Press Play.
   - Insert editing will start. At counter 0:00:00, insert editing will stop automatically while the tape continues running in the Play mode.
   - If you wish to stop insert editing before the specified edit-out point, press C. RESET.

NOTES:

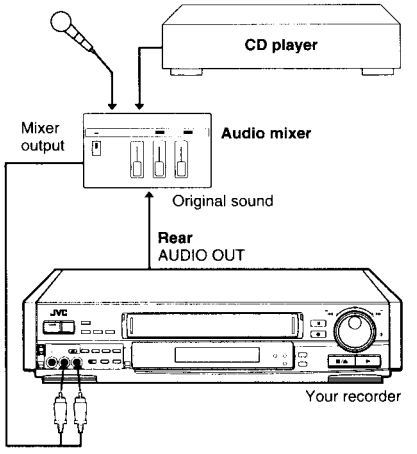
- Suitable leads can be obtained from your dealer.
- Insert editing is not possible with cassettes whose safety tab has been removed.
- In insert editing, the recording speed (SP/LP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point.

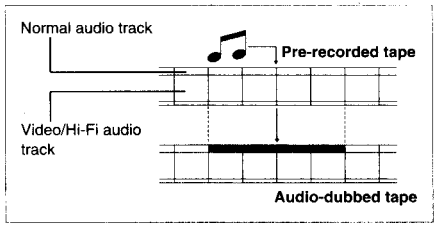
Audio Dubbing

A. Simple audio dubbing



B. Audio Dubbing with audio mixing





Audio dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack.

Preparation

Connect an audio component to the recorder's front panel AUDIO L, R connectors. (For monaural equipment, use the L connector.)

Operation

A. Simple audio dubbing

1. Select the recorder's external input mode by pressing numeric key "0". "F-AU" will appear instead of a preset number.
2. Start playback and engage the Still mode at the point from which you wish to start audio dubbing.
3. Press A. DUB.
4. Start playback of the audio source, and then press Play.
   - Audio dubbing will start.
5. Press Pause/Slow to stop audio dubbing temporarily.
6. Press Stop to stop audio dubbing.

B. Audio Dubbing with audio mixing

Perform the same procedure as described on the left, however, when the recorder is in the Audio Dubbing Pause mode in step 3, be sure to select the L+R position by pressing the Hi-Fi/NORM/MIX button.

This operation is not possible without an audio mixer nor with a monaural tape.

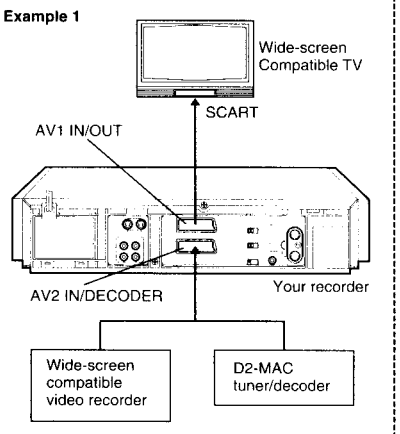
NOTES:

- When monitoring the sound during Audio Dubbing, the normal soundtrack will be automatically selected. If you wish to hear the mixed sound (Hi-Fi + normal soundtracks), press the Hi-Fi/NORM/MIX button to select the MIX mode. ☞ p. 16.
- Audio dubbing will stop automatically at the counter reading of "0:00:00", and the recorder will enter the Play mode. Check the counter before starting audio dubbing.
- Audio dubbing is also possible with input via the rear panel AV1 IN/OUT or AV2 IN. In these cases, select the appropriate input mode. ☞ p. 27
- Connections made to the front panel VIDEO and AUDIO input automatically override the rear panel AV input connection.
- Audio dubbing is not possible with cassettes whose safety tab has been removed.
- When playing back an audio-dubbed tape, press the Hi-Fi/NORM/MIX button to select the soundtrack you wish to hear. (☞ p. 16)

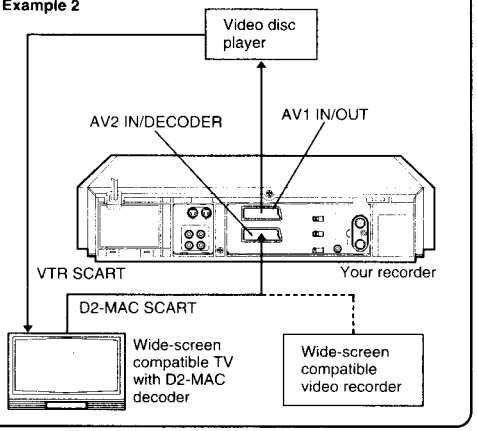
Information On Wide-Screen Viewing And Recording – D2-MAC –

CONNECTIONS

Example 1



Example 2



Wide-Screen Viewing And Recording

If your television is compatible with the 16:9 wide-screen format, please read this page to take full advantage of this recorder's Auto 16:9 function.

Set this switch to AUTO. Then your recorder will automatically record wide-screen programmes as "wide" and normal programmes as "normal".

Whichever position of this switch is selected, your recorder will automatically:

- play back wide-screen programmes as "wide" and normal programmes as "normal".
- control the television (if equipped with Auto Aspect Ratio Switching function) so that both types of programmes are displayed with the right proportions.

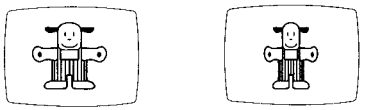
NOTES:

- When using the Auto 16:9 function, press TV/VIDEO to make the VIDEO indicator disappear from the display panel.
- When connecting a wide-screen compatible TV to the AV2 IN/DECODER connector, set the AV2 SELECT switch on the rear of the recorder to "AV2 IN".
- For the recorder to control the television, it must be connected to the TV via the AV1 IN/OUT connector.
- For the recorder to record in the correct mode automatically, the signal must be applied to either the AV1 IN/OUT or AV2 IN/DECODER connector.
- When recording wide-screen programmes via the S INPUT (S IN) or V INPUT connector, for example in tape-to-tape dubbing, set the 16:9 REC switch to MANUAL.
- When playing back wide-screen programmes via the S OUT connector, switch the television to the 16:9 mode manually.

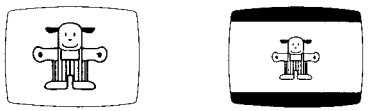
What You See On The Screen

Normal programmes **Wide-screen programmes**

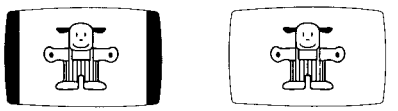
Normal television (4:3 aspect ratio)



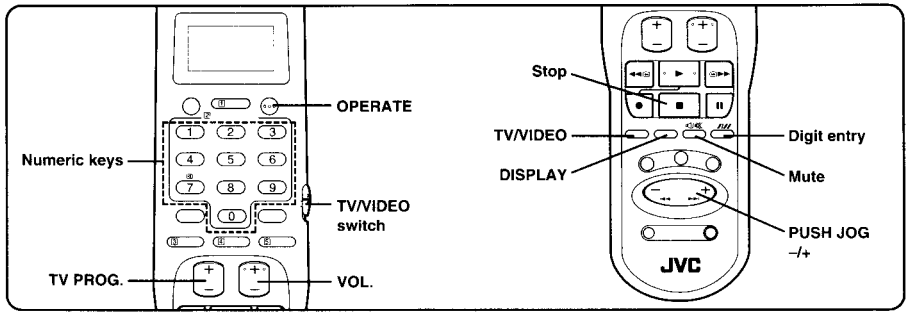
Wide-compatible normal television (4:3 aspect ratio)



Wide-screen television (16:9 aspect ratio)



Using The Remote Control For TV Operation



TV Code Setting

Your remote control can operate the basic functions of your TV set. In addition to JVC televisions, other manufacturers' televisions listed on the right can also be controlled by setting the remote control to "TV". If your television is a JVC (Code 01), you don't have to set the TV code in step 2.

1. Set the TV/VIDEO switch to "TV".
2. While holding down the OPERATE button, press the numeric keys corresponding to the code number for your TV's brand and then press Stop.
   - Press OPERATE to turn the TV power on.
   - Press TV/VIDEO to switch the TV between TV and VIDEO (or AV) mode.
   - Press TV PROG. to select the TV's channel.
   - Press VOL. to adjust the TV's sound volume.
   - Press Mute to mute the TV's sound.
3. To operate your recorder, set the TV/VIDEO switch back to "VIDEO".

NOTES:

- The TV PROG. button does not function with televisions using Code 02.
- The TV/VIDEO button does not function with televisions using Code 03.
- With some televisions, the OPERATE button functions only to turn the TV power off, and the TV/VIDEO button functions only to switch the TV to the VIDEO (AV) mode.
- Whenever you replace batteries in the remote control, it is necessary to re-set the TV code if your television is not a JVC TV.

IMPORTANT
Although the provided remote control unit is compatible with JVC television, as well as many other TV models, it may not work with your TV, or in some instances, may have limited function capability.

CODE	TV BRAND NAME
01	JVC
02	BRANDT, NORDMENDE, SABA, TELEAVIA, TELEFUNKEN, THOMSON
03	FERGUSON
04	PHILIPS
05	BLAUPUNKT, GRUNDIG
06	SONY
07	PANASONIC
08	GRAETZ, ITT, LUXOR, SALORA, SELECO
09	MIVAR

To Control Your Television With Additional Buttons

The numeric keys can also be used to select the TV's channel by setting the remote control to the TV mode.

1. Set the TV/VIDEO switch to "TV".
2. Use the numeric keys and the Digit entry button or the PUSH JOG button or DISPLAY button to select the TV's channel.
   - With televisions under Code 01, 03, 04, 06 or 07 the Digit entry button corresponds to the 1-digit/2-digit entry switching button (often labelled -/--) of your TV's remote control.
   - With televisions under Code 01, 08 or 09, the PUSH JOG – button corresponds to the 10 + button, and the PUSH JOG + button, to the 20 + button of your TV's remote control.
   - With televisions using Code 09 the DISPLAY button corresponds to the 30 + button.

NOTE:
The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

Precautions

Please follow these safety precautions. Not doing so may result in damage to the recorder, remote control, or video cassette.

- **Avoid extreme heat and direct sunlight.**
- **Avoid extreme cold.**
- **Avoid extreme humidity.**
- **Avoid dust.**
- **Avoid places subject to vibrations.**
- **Avoid strong magnetic fields.**
- **Do not block the recorder's ventilation openings.**
- **Do not place anything heavy on the recorder or remote control.**
- **Do not place anything which might spill on top of the recorder or remote control.**
- **Do not place the recorder on cushions, pillows, or thick carpeting.**
- **Use the recorder in a stable, horizontal position only.**

Beware of moisture condensation
Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions — just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder's power turned on for a few hours to let the moisture dry.

When transporting

- Be sure to remove cassette from recorder before packing.
- Avoid violent shocks to the recorder during packing and transport.

Place cassettes in cassette cases and store vertically.

Specifications

GENERAL

Power requirement		: AC 220 – 240 V~, 50/60 Hz
Power consumption		: 24 W
Temperature		
	Operating	: 5°C to 40°C
	Storage	: –20°C to 60°C
Dimensions (WxHxD)		: 426 x 94 x 341 mm
Weight		: 4.5 kg
Format		: S-VHS/VHS PAL standard with Hi-Fi audio
Maximum recording time	(SP)	: 240 min. with E-240 video cassette
	(LP)	: 480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines/50 fields
Recording/Playback system	: DA-4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 250 lines (VHS) 400 lines (S-VHS)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output	: 21-pin scart connectors (IN/OUT x 1, IN/DECODER x 1) RCA connectors (VIDEO IN x 1, AUDIO IN x 2, AUDIO OUT x 1) S connectors (IN x 1, OUT x 1)

TUNER/TIMER

TV channel storage capacity	: 80 positions (+AUX position "AU")
Channel coverage	: VHF 47 – 89/104 – 300/ 302 – 470 MHz UHF 470 – 862 MHz
Aerial output	: UHF channel 36 (Adjustable 32 – 40)
Memory backup time	: Approx. 3 min.

ACCESSORIES

Provided accessories	: Aerial cable, Infrared remote control unit, "R03" battery x 2, Audio cable, S-Video cable

Design and specifications subject to change without notice. Specifications shown are for SP mode unless otherwise specified.

In Case Of Difficulty

POWER AND TAPE TRANSPORT PROBLEMS

Symptoms	Check points
No power is applied to the recorder.	■ Is the power cord disconnected? — Connect it.
Clock is functioning properly, but the recorder cannot be powered.	■ Is "TIMER" displayed on the display panel? — Press the TIMER button to extinguish the display.
Tape stops during rewind or fast-forward.	■ Is the C. MEMORY button pressed? — Press again to make "M" disappear from the display panel.

RECORDING PROBLEMS

Symptoms	Check points
Recording cannot be started.	■ Is a cassette loaded? ■ Is the safety tab on the cassette removed? — Reseal the slot with adhesive tape.
TV broadcasts cannot be recorded.	■ Has "external input" been selected? — Set to the desired channel.
Tape-to-tape editing or camera recording is not possible.	■ Is the camcorder or another video recorder correctly connected? ■ Are all necessary power switches turned ON? ■ Has "external input" been selected? — Set to the correct input mode. (☞ p. 27)
Timer recording is not possible.	■ Have you set the clock correctly and programmed the timer correctly? — Check once again. ■ Is "TIMER" displayed on the display panel? — If not, press the TIMER button to display "TIMER".
ShowView timer recording is not possible, or cannot be done correctly.	■ Have you set GUIDE PROG. numbers into the remote control correctly? (☞ p. 20, 21) ■ Did you enter the correct ShowView number for that programme? (☞ p. 23)
Satellite programmes are not correctly timer-recorded.	■ Have you connected the satellite tuner to the recorder's AV2 IN/DECODER connector? — If not, make this connection. (☞ p. 22) ■ Have you selected "AU 2" as the channel? — Make sure "AU 2" is selected as the recording channel.(☞ p. 24)

PLAYBACK PROBLEMS

Symptoms	Check points
Playback picture does not appear while the tape is running.	■ If you are using RF OUT connection, is the TV receiver's channel selector set to the correct video channel? — Set it to the RF converter channel (UHF 36). (☞ p. 8) ■ If you are using AV connection, is the TV receiver set to the AV mode? — Set it to the AV mode.
Noise occurs during visual search.	■ This is normal.
Noise occurs during normal or slow-motion playback.	■ Is the automatic tracking mode engaged? — Try manual tracking. (☞ p. 14)
Playback picture is blurred or interrupted while TV broadcasts are clear.	■ Video heads may be dirty. — Head cleaning is necessary. Consult your JVC dealer. (☞ p. 37)
Playback picture has a loss of colour.	■ Have you selected the appropriate colour system for the tape being played back ? — Select the correct colour system by pressing the PAL/MESECAM button. (☞ p. 19) ■ Was the PAL/MESECAM button set to the wrong setting during recording ? — Once recorded, the signal cannot be corrected. Be sure to choose the correct setting before recording.
Breaks are noticeable in Hi-Fi audio reproduction.	■ Is the automatic tracking mode engaged? — Try manual tracking (☞ p. 14)

OTHERS

Symptoms	Check points
Whistling or howling is heard from TV during camera recording.	■ Move camcorder or camera's microphone away from TV or reduce TV sound volume.
Channel cannot be switched.	■ Is recording in progress? — Press the Pause/Slow button, change the channel, and press the Play button.
Remote control does not function.	■ Are the batteries discharged? — Replace with new ones. ■ Is the TV/VIDEO code switch set to the appropriate position? — Check once again. ■ Check the A/B code changeover mechanism. The code should change when you press the A/B button on the remote control for more than 2 seconds.

ATTENTION:
This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the power off and unplug the power cord. Then plug it in again and switch on. Take out the cassette. After checking the cassette, operate the unit as usual.

Special Note on Head Cleaning

- If the picture playback becomes blurred, it does not mean that the recorded program has been erased.
- Dirt accumulated on the video heads after long periods of use causes such troubles. In this case, head cleaning requiring highly technical care is necessary.
- For head cleaning, consult the nearest JVC dealer.